

**DRAFT NOTICE OF FINAL RULEMAKING  
MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS  
RULE 316 - NONMETALLIC MINERAL PROCESSING**

**PREAMBLE**

**1. Sections affected**

Rule 316

**Rulemaking action**

Amend

**2. Statutory authority for the rulemaking:**

Authorizing statutes: A.R.S. §§ 49-474, 49-479, and 49-480

Implementing statute: A.R.S. § 49-112

**3. The effective date of the rule:**

Tentative Date Of Adoption: March 12, 2008

**4. List of all previous notices appearing in the Register addressing the rulemaking:**

Notice of Rulemaking Docket Opening: 13 A.A.R. 2175, June 22, 2007

Notice of Proposed Rulemaking: 13 A.A.R. 3888, November 9, 2007

**5. Name and address of department personnel with whom persons may communicate regarding the rulemaking:**

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**6. An explanation of the rule, including the department's reasons for initiating the rule:**

Rule 316 limits the emission of particulate matter (PM10) into the ambient air from any commercial and/or industrial nonmetallic mineral processing plant and/or rock product plant. PM10 emissions are generated from commercial and/or industrial nonmetallic mineral processing plants and/or rock product plants during the mining, processing, and handling (i.e., transporting, loading/unloading, conveying, crushing, screening, mixing, and storing) of nonmetallic minerals. Unpaved roads and trackout are other sources of PM10 emissions from such operations.

Maricopa County adopted Rule 316 in July 1993 and revised Rule 316 in April 1999, in order to make the existing standards consistent with revisions to the Standards Of Performance For Nonmetallic Mineral Processing Plants (40 Code Of Federal Regulations (CFR) Part 60 Subpart OOO). In July 2002, the Environmental Protection Agency (EPA) granted Arizona's request to extend the Clean Air Act deadline for attainment of the annual and 24-hour PM<sub>10</sub> standards from 2001 to 2006. With this deadline extension, Arizona was required to submit to the EPA a revised PM<sub>10</sub> State Implementation Plan (SIP), which was to include control strategies that meet the Best Available Control Measures (BACM) test and the Most Stringent Measures (MSM) test for significant sources and source categories. Maricopa County revised Rule 316 in June 2005 to address BACM and MSM.

**PM<sub>10</sub> Nonattainment Status History:**

In accordance with 1990 Clean Air Act Amendments, the Maricopa County nonattainment area was initially classified as "moderate" for PM<sub>10</sub> pollution. As a moderate nonattainment area, Maricopa County was required to submit to the EPA a moderate PM<sub>10</sub> nonattainment area plan and to show attainment of the PM<sub>10</sub> national ambient air quality standards (NAAQS) by December 31, 1994. Moderate PM<sub>10</sub> nonattainment area plans were submitted to the EPA in 1991 and 1993.

The Maricopa County moderate PM<sub>10</sub> nonattainment area, upon the EPA's findings, failed to attain the NAAQS by December 31, 1994. Consequently, on May 10, 1996, the EPA reclassified Maricopa County as a serious PM<sub>10</sub> nonattainment area. Maricopa County was then required to submit a serious PM<sub>10</sub> nonattainment area plan, which had to include best available control measures (BACM), measures designed to achieve the maximum degree of emissions reduction for PM<sub>10</sub> sources. Maricopa County was then required to show attainment of the PM<sub>10</sub> NAAQS by December 21, 2001.

Emission inventories and air quality modeling analysis of existing control measures subsequently showed that attainment could not be reached by December 21, 2001. A shortfall of a 16.4% reduction in PM<sub>10</sub> concentration was identified. The CAA allows states to request an extension of this attainment date for up to five years, providing the state submits an attainment plan that includes the most stringent measures (MSM) that are included in any state's plan or achieved in practice by any State, and can be feasibly implemented in the area. Consequently, a rigorous planning effort was conducted to develop 77 additional control measures. The serious PM<sub>10</sub> nonattainment area plan was submitted to the EPA on July 9, 1999. The EPA approved the revised serious PM<sub>10</sub> nonattainment area plan in April 2002, contingent on the completion of three commitments by Maricopa County. The revisions to Rule 310 (adopted April 7, 2004) addressed the commitments.

As a result of litigation on the moderate PM<sub>10</sub> nonattainment area plan, the Arizona Department Of Environmental Quality (ADEQ) prepared and submitted a Plan For Attainment Of The 24-Hour PM<sub>10</sub>

Standard—Maricopa County PM<sub>10</sub> Nonattainment Area in May 1997. EPA's partially disapproval triggered a federal implementation plan (FIP) obligation, which remains in place, with regard to the area's PM<sub>10</sub> moderate area plan. The obligation resulted from EPA disapproval of those sections of the SIP addressing unpaved roads, unpaved shoulders, unpaved parking lots, vacant lots and agriculture. EPA found that the SIP did not contain adequate measures to reduce the emissions from or the number of existing sources in these categories and therefore failed to implement reasonably available control measures. Under the court ordered consent decree, EPA finalized a FIP in July 1998 for the Maricopa County PM<sub>10</sub> nonattainment area that addresses those four categories of sources.

On July 2, 2002, the EPA found the controls proposed in the Arizona 24-hour Standard PM<sub>10</sub> SIP revision were inadequate to ensure the attainment of the PM<sub>10</sub> national ambient air quality standards (NAAQS) at the Salt River air quality monitoring sites. The finding of inadequacy included the State Implementation Plan's (SIP's) attainment and reasonable further progress (RFP) demonstrations for the 24-hour PM<sub>10</sub> standard at the Salt River monitoring sites and three other microscale sites in the Maricopa County PM<sub>10</sub> nonattainment area (Maryvale, Gilbert, and West Chandler).

Although the EPA had approved Arizona's 1997 SIP revision and additional required controls proposed by Maricopa County on August 4, 1997, EPA's Aerometric Information Retrieval System (AIRS) continued to show exceedances at the Maricopa County PM<sub>10</sub> nonattainment area Salt River site - recording expected exceedances in 1999, 2000, and through three quarters of 2001. Consequently, the EPA required Arizona to submit a SIP revision to identify and implement corrective PM<sub>10</sub> control provisions in the Salt River Study Area and for similar significant sources in the Maricopa County PM<sub>10</sub> nonattainment area.

Arizona's SIP revision was required to provide for attainment in the Salt River site no later than December 31, 2006, in accordance with CAA §189(b)(1)(A) and 188(e), and was required to include control strategies that meet the best available control measures (BACM) test and the most stringent measures (MSM) test for significant sources and source categories.

The Final Revised PM<sub>10</sub> State Implementation Plan For The Salt River Area, dated August 2004 contained Arizona's revisions to the State Implementation Plan for the Maricopa County PM<sub>10</sub> serious nonattainment area and included the following State Implementation Plan requirements, as described by the EPA in its Federal Register notice of disapproval (67 FR 44369, July 2, 2002):

- A modeling demonstration showing that the level of emissions reductions from application of BACM-MSM for all significant sources of PM<sub>10</sub> will result in attainment of the 24-hour NAAQS by December 31, 2006, at the Salt River PM<sub>10</sub> monitoring site, in accordance with CAA §189(b)(1)(A) and §188(e).
- Commitments to implement best available control measures (BACM)-most stringent measures (MSM) for sources significantly contributing to exceedances of the 24-hour PM<sub>10</sub> standard in the Salt River

area as expeditiously as possible (CAA §189(b)(1)(B)) and a commitment that all BACM and MSM control measures adopted and applied to sources in the Salt River Study Area will be applied to all similar sources throughout the Maricopa County PM<sub>10</sub> serious nonattainment area.

- A demonstration that the plan constitutes Reasonable Further Progress (RFP) up to the attainment deadline - December 31, 2006.
- A demonstration that all the requirements of the federal Clean Air Act Amendments that pertain to serious PM<sub>10</sub> nonattainment areas are met - including CAA §110(l), §110(a)(2)(E)(i), and 40 CFR §51.280 and §51.111).

After having evaluated the 2002 PM<sub>10</sub> emissions data from the Maricopa County 2002 periodic PM<sub>10</sub> emissions inventory and after having developed a base year emissions inventory from an extensive field study, ADEQ reviewed rules and regulations from other jurisdictions across the United States and identified those requirements that were more stringent than requirements currently required by Arizona rules (i.e., best available control measures (BACM) and most stringent measures (MSM)). When competing or similar control measures or work practice standards were deemed BACM or MSM in various parts of the country, ADEQ was allowed some flexibility to determine which control measures to choose.

ADEQ did not make determinations upon whether or not the emissions from a single source or individual activities at a source were considered to be significant or not. According to the modeling analysis presented in the Proposed Revised PM<sub>10</sub> State Implementation Plan (SIP) For The Salt River Area Technical Support Document, a series of emissions sources were identified as being significant contributors to the overall nonattainment of the study area. While every facility, when considered independently of the sources surrounding it, should be capable of demonstrating compliance with State and County air quality standards, those sources, when considered collectively, contribute to the overall nonattainment of the study area.

#### **Explanation For Current Rulemaking Proposals:**

EPA has advised Maricopa County that Rule 316 has not included all Best Available Control Measures (BACM) and Most Stringent Measures (MSM) for nonmetallic mineral mining sources. The EPA noted that Maricopa County had not included a requirement that sources maintain a minimum moisture content on crushing and screening operations and monitor the moisture content for compliance citing Clark County, Nevada Section 34. Furthermore, since the region did not attain the PM<sub>10</sub> standard by December 31, 2006, the region was required to submit to the EPA a Five Percent Plan for PM-10 by December 31, 2007. The Five Percent Plan for PM-10 was required to demonstrate 5% reductions per year in emissions from the date of submission to the EPA. The Maricopa County Air Quality Department (MCAQD) is now revising Rule 316 to correct section references - to link required control measures to applicable performance standards or test methods - to improve the rule's clarity and regulatory uniformity among related rules in the Maricopa County Air Pollution Control Regulations, and to include a requirement that sources maintain a minimum moisture

content on crushing and screening operations and monitor the moisture content for compliance. The MCAQD is also revising Rule 316 to comply with commitments made in the Five Percent Plan for PM<sub>10</sub> and to be consistent with and implement new requirements adopted by the Arizona State Legislature in SB1552. SB1552 enacted new requirements for dust control coordinators, training, and dustproof paving for parking, maneuvering, ingress and egress areas.

The December 2007 Five Percent Plan for PM<sub>10</sub> relies significantly upon emission reductions from Rule 316 sources as part of the attainment demonstration for the Salt River area; an area that has the highest emissions density of PM-10 in the nonattainment area. Table 8-8 on page 8-50 presents the modeling results for the low wind design day (December 12, 2005) at West 43<sup>rd</sup> Avenue monitor. On the design day, modeling indicated that industrial point and area sources (of which Rule 316 sources constitute the majority) contributed 6.41 ug/m<sup>3</sup> and 60.49 ug/m<sup>3</sup> respectively, out of a total of 233.2 ug/m<sup>3</sup>. A source category that contributes 5 ug/m<sup>3</sup> is considered to be a significant contributor to a nonattainment area's exceedances. Furthermore, Table 8-8 relies upon a 47% reduction of PM-10 emissions from industrial point and area sources in order to demonstrate attainment by 2010. Additionally, the Five Percent Plan estimates that full implementation of all the control measures applicable to Rule 316 sources will result in emissions reductions of 453 tons per year by 2010. These reductions are essential to meeting the annual 5% reductions in total PM-10 emissions as required by the Five Percent Plan. The Five Percent Plan demonstrates that emission reductions from Rule 316 sources are necessary to show both attainment at the monitors and to meet the annual 5% emissions reductions targets.

Each control measure applicable to Rule 316 theoretically increases compliance rates, which results in decreased emissions. When combined, all of the control measures applicable to Rule 316 are predicted to achieve an 80% compliance rate by 2010. The base compliance rate begins at 54% per Appendix 2.2-Rule Effectiveness Study For Maricopa County Rules 310, 310.01, And 316 of the 2005 Periodic Emissions Inventory For PM<sub>10</sub> For The Maricopa County, Arizona Nonattainment Area dated May 2007. The base compliance rate increases by 26% in 2010 to achieve an 80% compliance rate. The MCAQD will conduct another formal rule effectiveness study in 2009 or 2010 to determine if the region achieved an 80% compliance rate for Rule 316.

For more than 10 years, Clark County has implemented a minimum moisture content requirement through a case-by-case analysis. Similarly, in Maricopa County, to implement this level of control for all sources regardless of site-specific conditions but without having to conduct a case-by-case analysis, the MCAQD has proposed that maintaining a minimum soil moisture content of 4% represents an effective level of BACM/MSM. The MCAQD has also provided for the submittal of a site-specific justification for an alternative minimum soil moisture content to be approved by the Control Officer and the Administrator. Examples of site-specific factors include the following: (1) if a process includes a fine mesh screen, mined products that contain significant silts or clays may blind the screen leading to downtime and added emissions from startup/shutdown

and (2) an asphalt batch plant may demonstrate that more emissions are produced by the fuel burned to dry materials prior to batching than are reduced by increasing the moisture content to increase control efficiency. The proposed rule also provides that an owner/operator may submit documentation demonstrating that an alternative moisture testing protocol correlates with the reference test method and protocol or demonstrating that reducing the number of sampling points and/or reducing sampling frequency correlates with the protocol described in the rule.

#### Section By Section Explanation Of Changes:

- Section 220: This revision deletes “but not later than 8 pm” in the first sentence and adds a second sentence. Second sentence to read: “If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.”
- Section 227: This revision adds “or pit” and adds “For the purpose of this definition, haul/access roads are not in permanent areas of a facility.”
- Section 235: This revision adds “raw material storage and distribution.”
- Section 236: This revision changes “ASTM Method C136-01” to “ASTM Method C136-06” and deletes “of the Environmental Protection Agency (EPA).” Also, this revision, in the first sentence, deletes “which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more” and adds “that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet.” The intent is that the surface area of the storage pile is of concern - not the footprint of the storage pile.
- New Section 240: This revision adds “Permanent Areas Of A Facility - Areas that remain in-place for 180 days or more in 12 consecutive months. Permanent areas of a facility include the following areas: entrances, exits, parking areas, office areas, warehouse areas, maintenance areas (not including maintenance areas that are in the quarry or pit), concrete plant areas, asphaltic plant areas, and roads leading to and from such areas.”
- Re-Numbered Section 261: This revision deletes “Unpaved internal roads are private unpaved roads within the facility’s property boundary.”
- Section 301: This revision changes heading “Nonmetallic Mineral Processing Plants-Process Emission Limitations And Controls” to “Crushing And Screening-Process Emission Limitations And Controls.” This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1: This revision deletes “of a nonmetallic mineral processing plant.”

- Section 301.1(a): This revision deletes “Such stack emissions shall be vented to a properly sized fabric filter baghouse.” Section 301.1(a) is addressed in Section 301.2(d). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1(d): This revision deletes “directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1 - under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation - is in Section 301 and would be a stack emission. Any type of stack is addressed by Section 301, Section 302, and Section 303. Active system is in Section 301, Section 302, and Section 303. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1(e): This revision adds “Opacity observations to determine compliance with this section of this rule shall be conducted in accordance with the techniques specified in Appendix C-Fugitive Dust Test Methods of these rules.”
- Section 301.2: This revision deletes “For crushing and screening facilities, the”, “of a nonmetallic mineral processing plant”, and “all of the following.” This revision adds “The” and “described in Section 301.2(a), Section 301.2(b), and Section 301.2(c) of this rule or shall implement process controls described in Section 301.2(a) and Section 301.2(d) of this rule.”
- Section 301.2(b): This revision adds “the points listed below for crushers, shaker screens, and material transfer points.”
- Section 301.2(c): As originally written, Section 301.2 requires owners and operators of “crushing and screening facilities” to “implement” specified process controls, expressly requiring regulated facilities to “permanently mount watering systems” at certain material handling points. Although Section 301.2(b) expressly calls for installation of watering systems, it says nothing about the manner in which the watering systems, once installed, must be operated. This revision adds “Operate watering systems (e.g., spray bars or an equivalent control) on the points listed in Section 301.2(b) of this rule for crushers, shaker screens, and material transfer points, excluding wet plants, to continuously maintain a 4% minimum moisture content. (1) The watering systems shall be maintained in good operating condition, as verified by daily inspections. (2)

The owner and/or operator shall investigate and correct any problems before continuing and/or resuming operations. (3) The owner and/or operator shall conduct soil moisture tests as follows: (a) If the owner and/or operator is required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted twice daily in accordance with the test methods described in Section 502 of this rule. (b) If the owner and/or operator is not required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted daily in accordance with the test methods described in Section 502 of this rule. (c) If the owner and/or operator demonstrates that the 4% minimum moisture content is maintained for a minimum of four weeks, then soil moisture tests may be conducted weekly in accordance with the test methods described in Section 502 of this rule. (d) If the owner and/or operator fails to comply with the opacity limitations described in Section 301.1, Section 306.1, or Section 306.2 of this rule and/or if two consecutive soil moisture tests are below 4%, then the owner and/or operator shall conduct soil moisture tests in accordance with Section 301.2(c)(3)(a) or Section 301.2(c)(3)(b) of this rule, as applicable. (e) If the owner and/or operator of a facility complies with both of the following requirements, then the number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced: (i) A soil moisture test is conducted in accordance with the test methods described in Section 502 of this rule at the primary crusher, which indicates that at least a 5% minimum moisture content is maintained; and (ii) A demonstration that complies with Section 502.3(d) of this rule is submitted to and approved by the Control Officer and is complied with in accordance with Section 502.3(d) of this rule. (4) The owner and/or operator may request in a permit application, with explanation, an alternative plan that justifies a minimum moisture content other than 4% and that justifies conducting fewer soil moisture tests as are required. In the request, the owner and/or operator shall submit to the Control Officer documentation regarding a minimum moisture content other than 4%, including, but not limited to, economics, emissions rates, water availability, and technical feasibility. In addition, the owner and/or operator shall demonstrate that the proposed alternative compliance demonstration plan will be equivalent in determining compliance with the soil moisture content requirements. Prior approval from the Control Officer and the Administrator shall be received before implementing the plan. d. Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.”

Section 301.2(d):

This revision adds “Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.” A baghouse is needed with the grain loading standard to meet



	Section 301.1(a). This revision is intended to match Clark County’s Section 34 language regarding “enclose and exhaust the regulated process to properly sized baghouse”.
Section 302.1:	This revision deletes “of an asphaltic concrete plant.”
Section 302.1(a):	This revision deletes “over a 6-minute period” from Sections 302.1(a), Section 302.1(b), and Section 302.2. “Over a 6-minute period” is addressed in test methods section.
Section 302.1(b):	This revision deletes “over a 6-minute period” from Sections 302.1(a), Section 302.1(b), and Section 302.2. “Over a 6-minute period” is addressed in test methods section.
Section 302.1(c):	This revision deletes “From all cement, lime, and/or fly ash storage silo(s), fugitive dust emissions exceeding 20% opacity” and adds “Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping.” Similar to Section 301.1(d) and Section 303.1(b). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
Section 302.2:	This revision deletes “of an asphaltic concrete plant shall implement all of the following process controls” and adds “shall, from all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse.” Stack emissions are not fugitive emissions - are under process fugitives. Process equipment has process fugitives. Loading a pile is under Section 306. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
Section 302.2(a):	This revision deletes “On all cement, lime, and/or fly-ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly-ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.” Section 302.2(a) is addressed in Section 303.2(a). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on

the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 302.2(b): This revision deletes “On existing cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(b) is addressed in Section 302.2 and the “5%” is addressed in Section 303.1(a). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 302.2(c): This revision deletes “On new cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(c) is addressed in Section 302.2 and the “5%” is addressed in Section 303.1(a). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 302.2(d): This revision deletes “From all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(d) is addressed in Section 302.2. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 303: This revision changes heading “Concrete Plants And/Or Bagging Operations-Process Emission Limitations And Controls” to “Raw Material Storage And Distribution, Concrete Plants, And/Or Bagging Operations-Process Emission Limitations And Controls.” This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 303.1:	This revision deletes “of a concrete plant and/or bagging operation.”
Section 303.1(a):	<p>This revision deletes “7%” and adds “5%.” Discussion that led to the change: Particle size is an indicator of opacity - not a linear relationship, though. “Process Emission Limitations” should include opacity. “Controls” might not include opacity. This revision deletes Section 303.2(b), because it is covered in Section 303.1(a). Asphalt - already mixed - is not a “raw material”. Loading a silo can produce emissions. Silo should have “control” but might not. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.</p>
Section 303.1(b):	<p>This revision deletes “directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1 - under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation - is in Section 301 and would be a stack emission. Any type of stack is addressed by Section 301, Section 302, and Section 303. Active system is in Section 301, Section 302, and Section 303. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.</p>
Section 303.1(c):	<p>This revision deletes “Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1 - under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation - is in Section 301 and would be a stack emission. Any type of stack is addressed by Section 301, Section 302, and Section 303. Active system is in Section 301, Section 302, and Section 303. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.</p>
Section 303.2:	This revision deletes “of a concrete plant and/or bagging operation.”
Section 303.2(b):	<p>This revision deletes “On existing cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 303.2(b) is addressed in Section 302.2 and the</p>

“5%” is addressed in Section 303.1(a). This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 305: This revision adds “An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule. When selecting air pollution control equipment required by this rule, the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some air pollution control equipment may be more reasonable to implement than others. Regardless, any air pollution control equipment that is installed must achieve the applicable standard(s) required by this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator of a facility may submit a request to the Control Officer and the Administrator for the use of alternative air pollution control equipment. The request shall include the proposed alternative air pollution control equipment, the air pollution control equipment that the alternative would replace, and a detailed statement or report demonstrating that the air pollution control equipment would result in equivalent or better emission control than the equipment prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator to grant the petition, the facility shall incorporate the alternative air pollution control equipment in any required Operation And Maintenance (O&M) Plan.”

New Section 305.2: This revision adds “Operation And Maintenance (O&M) Plan Requirements For Dust Control Measures: a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for equipment associated with any process fugitive emissions and fugitive dust control measures (i.e., gravel pads, wheel washers, truck washers, rumble grates, watering systems, and street sweepers) that are implemented to comply with this rule or an air pollution control permit. b. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.”

Re-Numbered Section 305.4: This revision deletes “Section 305.1” and adds “Section 305.”

Section 306.1: This revision deletes “The” and adds “For emissions that are not already regulated by an opacity limit, the.” This revision deletes “Section 502” and adds “Section 503.”

- Section 306.3(b): This revision deletes “Maricopa County Environmental Services Department Air Quality Division” and adds “Maricopa County Air Quality Department.”
- Section 306.3(c)(1)(a): This revision deletes “and Section 306.2.”
- Section 306.3(c)(1)(b): This revision deletes “Maintain a visible crust by applying water” and adds “Before and during active operations, apply water.” This revision deletes “or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule” and adds “to keep the soil visibly moist.”
- Section 306.3(c)(2): This revision adds “inactive.”
- Section 306.3(c)(2)(a): This revision deletes “visible” and adds “soil”. This revision deletes “Section 503 and Section 504” and adds “Section 505.”
- Section 306.3(c)(3): This revision deletes “a” and adds “an inactive.”
- Section 306.3(c)(3)(b): This revision deletes “visible” and adds “soil.” This revision deletes “Section 503 and Section 504” and adds “Section 505.”
- Section 306.4: This revision deletes “internal.”
- Section 306.4(a): This revision adds “For unpaved roads” and “silt content exceeding 6%.”
- Section 306.4(b): This revision deletes “Silt content exceeding 6%” and adds “For unpaved parking and staging areas, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup> or silt content exceeding 8%.”
- Section 306.5(a): This revision adds “with an open area or a disturbed surface area on which no activity is occurring (including areas that are temporarily or permanently inactive).” This revision deletes “any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with.” This revision deletes “facility” and adds “area.”
- Section 306.5(a)(1): This revision deletes “visible” and to add “soil.”
- Section 306.5(a)(7): This revision deletes “of the Environmental Protection Agency (EPA).”
- Section 306.5(b): This revision deletes “disturbance” and adds “visibly distinguishable stabilization characteristics.” This revision deletes “each representative surface shall be tested” and adds “the owner and/or operator shall test each representative surface.” This revision deletes “Section 503 and Section 504” and adds “Section 505.” This revision deletes “and shall be included in or eliminated from the total size assessment of disturbed surface area(s) depending upon test method results.”
- Section 307: This revision deletes “of the Environmental Protection Agency (EPA).” This revision deletes “of the EPA.” This revision adds “When engaged in the activities described in Section 301 and Section 307.1 through Section 307.9 of this rule, the owner and/or operator of a facility shall install, maintain, and use fugitive dust control measures as described in Section 307.1 through Section 307.9 of this rule, as applicable.”

- Section 307.1: This revision deletes “in compliance with Section 306.1 and Section 306.5 of this rule.” This revision adds “Section 306.2.”
- Section 307.1(a): This revision deletes “stacking.” Truck dumping is addressed in Section 307.1 - under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation - is in Section 301 and would be a stack emission. Any type of stack is addressed by Section 301, Section 302, and Section 303. Active system is in Section 301, Section 302, and Section 303. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 307.1(b): This revision deletes “stacking.” Truck dumping is addressed in Section 307.1 - under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation - is in Section 301 and would be a stack emission. Any type of stack is addressed by Section 301, Section 302, and Section 303. Active system is in Section 301, Section 302, and Section 303. This revision re-organizes requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 307.1(b)(1): This revision deletes “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(b)(2): This revision deletes “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(b)(3): This revision deletes “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”
- Section 307.1(b)(4): This revision deletes “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”
- Section 307.1(b)(5): This revision deletes “Meet one of the stabilization standards in Section 306.5 of this rule.”
- Re-Numbered Section 307.1(b)(5): This revision adds “or.” This revision deletes “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”

- New Section 307.1(b)(6): This revision adds “Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings”.
- Section 307.1(c): This revision deletes “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(d): This revision deletes “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.2: This revision deletes “stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures, in compliance with Section 306.4 and/or Section 306.5 of this rule, as applicable.” This revision adds “implement one of the following fugitive dust control measures on areas other than the areas identified in Section 307.3 and Section 307.4 of this rule where loaders, support equipment, and vehicles operate.”
- Section 307.2(a): This revision deletes “Pre-water surface soils.” This revision adds “Apply and maintain water.”
- Section 307.3: This revision adds in heading “That Are Not In Permanent Areas Of A Facility.”
- Section 307.3(a): This revision deletes “in compliance with Section 306.4 of this rule.”
- Section 307.3(b): This revision deletes “implementing one” and adds “it is determined that none.” This revision deletes “is determined to be technically infeasible as obtained/approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) and as approved in the Dust Control Plan” and adds “can be technically and feasibly implemented.” This revision adds “Such determination shall be made and approved in writing by the Control Officer and the Administrator and shall be approved in the Dust Control Plan.”
- Section 307.4(a): This revision deletes “internal” and deletes “in the permanent areas of the facility /operation that include entrances, exits, warehouses and maintenance areas, office areas, concrete plant areas, asphaltic plant areas, and parking and staging areas, as approved in the Dust Control Plan.”
- Section 307.4(b): This revision deletes “internal roads subject to Section 307.4(a) of this rule” and adds “paved surfaces or cohesive hard surfaces, except.” This revision deletes “entering and exiting” and adds “driving on roads leading to and from.”
- Section 307.4(c): This revision deletes “Section 307.5” and adds “Section 307.6.” This revision deletes “and that comply with Section 306.5 of this rule.”
- Section 307.4(d): This revision adds “The owner and/or operator of a facility shall pave or install a cohesive hard surface on permanent areas of a facility on which vehicles drive, as approved in the Dust Control Plan.”
- Section 307.6(a)(1): This revision deletes “The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area

accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout” and adds “(a) The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. (b) The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout. (c) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.”

Section 307.6(a)(4): This revision deletes “internal.”

Section 307.6(a)(5): This revision deletes “internal.”

Section 307.6(b)(1): This revision deletes “The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout” and adds “(a) The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout. (b) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.”



Section 307.6(b)(4):	This revision deletes “internal roads.”
Section 307.6(c)(1):	This revision deletes “internal.”
Section 307.6(c)(2):	This revision deletes “internal.”
Section 307.6(c)(3):	This revision deletes “internal.”
Section 307.6(c)(4):	This revision deletes “Section 230” and adds “Section 229.”
Section 307.6(e):	This revision deletes “internal” from heading and adds “Identified In The Dust Control Plan.” This revision deletes “internal” from introductory sentence and adds “identified in the Dust Control Plan for a facility.”
Section 307.6(e)(1):	This revision deletes “internal.”
Section 307.6(e)(2):	This revision deletes “internal” and “as necessary to comply with Section 306 of this rule.”
Section 307.6(e)(4):	This revision deletes “internal.”
Section 307.7:	This revision adds “so as to meet all of the applicable requirements in this rule.”
Section 307.8:	This revision deletes “one of.”
Section 307.8(a):	This revision deletes “internal” and adds “or.”
Section 307.8(b):	This revision deletes “internal” and “or” and adds “and.”
New Section 308:	This revision adds “The owner and/or operator of a facility subject to this rule shall erect and maintain a facility information sign at the main entrance such that members of the public can easily view and read the sign at all times. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information”.
New Section 308.1:	This revision adds “Facility name and permittee’s name.”
New Section 308.2:	This revision adds “Current number of the air quality permit or of authority to operate under a general permit.”
New Section 308.3:	This revision adds “Name and local phone number of person(s) responsible for dust control matters; and.”
New Section 308.4:	This revision adds “Text stating: “Dust complaints? Call Maricopa County Air Quality Department - (Insert the accurate Maricopa County Air Quality Department complaint line telephone number).”
Section 309:	This revision adds “or with five acres or more of disturbed surface area subject to a permit, whichever is greater” and deletes “or his designee.”
Section 309.1:	This revision adds “to have full authority to ensure that fugitive dust control measures are implemented on-site and.”
Section 309.2:	This revision adds “Be trained in accordance with the Comprehensive Dust Control Training Class conducted or approved by the Control Officer, successfully complete, at least once every three years, such Comprehensive Dust Control Training Class,

	and have a valid dust training certification identification card readily accessible on-site while acting as a Fugitive Dust Control Technician.”
Section 309.4:	This revision deletes “Be available within 30 minutes” and adds “Be on-site at all times during primary dust generating operations related to the purposes for which the permit was obtained.”
Section 309.6:	This revision adds “Be authorized by the owner and/or operator of the facility to ensure that the site superintendent or other designated on-site representative of the owner and/or operator of the facility and water truck and water pull drivers for each site be trained in accordance with the Basic Dust Control Training Class conducted or approved by the Control Officer with jurisdiction over the site and successfully complete, at least once every three years, such Basic Dust Control Training Class.”
New Section 310.1:	This revision adds “At least once every three years, the site superintendent or other designated on-site representative of the permit holder, if present at a site that has more than one acre of disturbed surface area that is subject to a permit issued by the Control Officer requiring control of PM <sub>10</sub> emissions from dust generating operation, shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.”
New Section 310.2:	This revision adds “At least once every three years, water truck and water-pull drivers shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.”
New Section 310.3:	This revision adds “All persons having successfully completed training during the 2006 and 2007 calendar years shall be deemed to have satisfied the requirement to successfully complete the Basic Dust Control Training Class, if the training that was completed was conducted or approved by the Control Officer. Completion of the Comprehensive Dust Control Training Class, as required in Section 309.2 of this rule, shall satisfy the requirement of this section of this rule.”
Section 311:	This revision deletes “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 and Section 307 of this rule. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.”
New Section 311.1:	This revision adds “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 305.2, Section 306, Section 307, and Section 309 of this rule.”

- New Section 311.2: This revision adds “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all equipment associated with any process fugitive emissions to be implemented, in order to comply with Section 301 and Section 305.2 of this rule and that includes all of the information in Section 311.2(a) and Section 311.2(b) of this rule, as applicable. If an alternative plan for conducting required soil moisture tests is approved by the Control Officer, included in a Dust Control Plan, and implemented by the owner and/or operator, as allowed under Section 301.2(c)(6) of this rule, and if the Control Officer determines that such alternative plan included in a Dust Control Plan has been followed, yet fugitive dust emissions still exceed the standards of this rule, then the Control Officer shall issue a written notice to the owner and/or operator explaining such determination. The owner and/or operator shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer’s written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule. a. Documentation for the soil moisture content in order to comply with Section 301.2 of this rule. b. Documentation of soil moisture analysis for each move notice regarding portable sources.”
- New Section 311.3: This revision adds “The Dust Control Plan shall, in addition, contain all the information described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.”
- New Section 311.4: This revision adds “All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.”
- New Section 311.5: This revision adds “The Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan shall be deemed a violation of this rule.”
- New Section 311.6: This revision adds “With each move notice regarding portable sources, the owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that meets the requirements of this section of this rule.”
- New Section 312: This revision adds “General Requirements: An owner and/or operator of a facility subject to this rule shall be subject to the standards and/or requirements of this rule at all times. Failure to comply with any one of the following requirements shall constitute a violation.”

New Section 312.1:	This revision adds “Process emission limitations and controls described in Section 301, Section 302, and Section 303 of this rule.”
New Section 312.2:	This revision adds “Operation and maintenance (O&M) plan requirements for an emission control system and for dust control measures described in Section 305 of this rule.”
New Section 312.3:	This revision adds “Fugitive dust emission limitations described in Section 306 of this rule.”
New Section 312.4:	This revision adds “Fugitive dust control measures described in Section 307 of this rule.”
New Section 312.5:	This revision adds “Facility information sign requirement described in Section 308 of this rule.”
New Section 312.6:	This revision adds “Fugitive Dust Control Technician requirements described in Section 309 of this rule.”
New Section 312.7:	This revision adds “Basic Dust Control Training Class requirements described in Section 310.”
New Section 312.8:	This revision adds “Dust Control Plan requirements described in Section 311 of this rule.”
New Section 312.9:	This revision adds “Monitoring and recordkeeping requirements described in Section 500 of this rule.”
New Section 312.10:	This revision adds “Any other requirements of this rule.”
Section 401:	This revision deletes “and the following schedule applies” and adds ““except as follows.”
New Section 401.1	This revision adds new Section 401.1: “Process Controls: Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.”
Re-Numbered Section 401.2:	This revision deletes “Dust Control Plan: When complying with Section 309 of this rule, if a Dust Control Plan is required to be revised, then a revised Dust Control Plan shall be submitted to the Control Officer by September 30, 2005 or three months after rule adoption, whichever comes first” and adds “O&M Plan.”
New Section 401.2(a):	This revision adds “The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008.”
New Section 401.2(b):	This revision adds “The Control Officer shall take final action on an O&M Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete O&M Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.”
Re-Numbered Section 401.3:	This revision deletes “Pressure Control System: When complying with Section 303.2(e) of this rule, a pressure control system shall be installed by December 31,

- 2005 or six months after rule adoption, whichever comes first” and adds “Dust Control Plan.”
- New Section 401.3(a): This revision adds “The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.”
- New Section 401.3(b): This revision adds “The owner and/or operator of a new facility shall submit to the Control Officer a Dust Control Plan at the time such owner and/or operator submits a permit application to the Control Officer.”
- New Section 401.3(c): This revision adds “The Control Officer shall take final action on a Dust Control Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete Dust Control Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.”
- New Section 401.3(d): This revision adds “The Dust Control Plan or the Dust Control Plan revision/update must be approved by the Control Officer before operations begin.”
- Re-Numbered Section 401.4: This revision deletes “Operational Overflow Warning System/Device: When complying with Section 302.2(a) and/or Section 303.2(a) of this rule, an operational overflow warning system/device shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first” and adds “Basic Dust Control Training Class: No later than December 31, 2008, a site superintendent or other designated on-site representative of the permit holder, water truck drivers, and water pull drivers shall have successfully completed the Basic Dust Control Training Class, as described in Section 310 of this rule.”
- Re-Numbered Section 401.5: This revision deletes “Fugitive Dust Control Technician: When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after rule adoption, whichever comes first” and adds “Comprehensive Dust Control Training Class: No later than June 30, 2008, a Fugitive Dust Control Technician shall have successfully completed the Comprehensive Dust Control Training Class, as described in Section 309 of this rule.”
- Section 401.5: This revision deletes “Surface Stabilization Where Support Equipment And Vehicles Operate: When complying with Section 307.2 of this rule, surface stabilization and/or paving shall be completed by December 31, 2005 or six months after rule adoption, whichever comes first.”
- Section 401.6: This revision deletes “Trackout: When complying with Section 307.6 of this rule, a rumble grate, wheel washer, or truck washer shall be installed and a schedule for using PM<sub>10</sub> efficient South Coast Air Quality Management Rule 1186 certified street sweepers shall be in place by January 1, 2006.”

- Section 401.7: This revision deletes “Process Emission Limitations And Controls: When complying with Section 301, Section 302, and/or Section 303 of this rule, process emission limitations shall be complied-with and controls shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.”
- Section 501: This revision adds in heading “Monitoring”.
- Section 501.2(a)(4): This revision adds “produced per day (cubic yards/day)”, “volume of”, and “(tons/day).”
- Section 501.2(a)(5): This revision deletes “(cubic yards/day)” and adds “(tons per day).”
- New Section 501.2(a)(7): This revision adds “For facilities that assert to be below the thresholds in Section 307.6(a) and Section 307.6(e)(1) of this rule, number of aggregate trucks, mixer trucks, and/or batch trucks exiting the facility.”
- Section 501.2(c)(3): This revision adds “For watering systems (e.g., spray bars or an equivalent control): (a) Date, time, and location of each moisture sampling point; and (b) Results of moisture testing.”
- Section 501.3: This revision deletes “ECS.”
- Section 501.3(a): This revision adds heading “For Any ECS, Any Other Emission Processing Equipment, And Any ECS Monitoring Devices That Are Used Pursuant To This Rule Or To An Air Pollution Control Permit.”
- Section 501.3(b): This revision adds “For Equipment Associated With Any Process Fugitive Emissions And Any Fugitive Dust Control Measures That Are Implemented To Comply With This Rule Or To An Air Pollution Control Permit: (1) A written record of self-inspection on each day that a facility is actively operating. Self-inspection records shall include daily inspections or in compliance with O&M Plan requirements, whichever is more frequent; (2) Maintenance of street sweepers; and (3) Maintenance of trackout control devices, gravel pads, wheel washers, and truck washers.”
- Section 501.4: This revision deletes “An owner and/or operator of a facility shall compile, maintain, and retain records as described in Rule 310-Fugitive Dust of these rules” and adds “An owner and/or operator of a facility shall compile, maintain, and retain a written record of self-inspection of all fugitive dust control measures implemented, in order to comply with the Dust Control Plan, on each day that the facility is actively operating. Self-inspection records shall include information as described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.”
- New Section 501.5: This revision adds “Basic Dust Control Training Class Records: An owner and/or operator of a facility shall compile, maintain, and retain a written record for each employee subject to Section 310 of this rule. Such written records shall include the name of the employee, the date of the Basic Dust Control Training Class that such

employee successfully completed, and the name of the agency/representative who conducted such class.”

Section 502:

This revision deletes, from the heading, “40 Part 60, Appendix A Test Methods Adopted By Reference” and adds “For Process Emissions And Controls.” In the first sentence, this revision adds “Compliance determinations for activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be made according to the”, deletes “the”, adds “40”, deletes “July 1, 2004”, and adds “July 1, 2007.” In the second sentence, this revision adds “Such subparts of 40 CFR Part 60, Appendix A, adopted as of July 1, 2007 and 40 CFR Part 51, Appendix M, adopted as of July 1, 2007.” In the third sentence, this revision deletes “Environmental Services” and adds “Air Quality.”

Section 502.2:

This revision deletes, from the heading “Determination” and adds “Observations.” This revision deletes “Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the test methods described in Appendix C (Fugitive Dust Test Methods) of these rules” and adds “Opacity observations to measure visible emissions from activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be conducted in accordance with the techniques specified in EPA Reference Method 203B (Visual Determination Of Opacity Of Emissions From Stationary Sources For Time-Exception Regulations), 40 CFR Part 51, Appendix M, adopted as of July 1, 2007. Emissions shall not exceed the applicable opacity standards described in Section 301 (excluding Section 301.1(e)), Section 302, and Section 303 of this rule for a period aggregating more than three minutes in any 60-minute period.”

New Section 502.3:

This revision adds “Soil Moisture Testing For Watering Systems: a. If twice daily moisture sampling is required, such sampling shall be conducted within one hour of startup and again at 3 pm or within one hour prior to daily shutdown but no less frequently than once every 8-hour period. b. If daily moisture sampling is required, such sampling shall be conducted within one hour after startup. c. Moisture testing shall be conducted on all crushers, shaker screens, and material transfer points (excluding wet plants). Unless prior approval from the Control Officer is granted, moisture testing shall be conducted at the following sample points: (1) Within 10 feet from the point where crushed aggregate material is placed on the discharge belt conveyor from the crusher; (2) Within 10 feet from the point where screened aggregate material is placed on the conveyor; and (3) From each stacker point. d. The number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced, if the owner and/or operator of a facility complies with all of the following requirements: (1) A 5% minimum moisture content, as demonstrated

by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule, is maintained at the primary crusher; (2) A minimum of 20 soil moisture samples are taken at all of the points identified in Section 502.3(c) of this rule; (3) A 4% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule and as demonstrated by the soil moisture samples required by Section 502.3(d)(2) of this rule, is maintained at all of the points identified in Section 502.3(c) of this rule; and (4) A written request is submitted to and approved by the Control Officer to revise/modify the Dust Control Plan to reflect the change in moisture content and the reduced number of sampling points according to the demonstration made by the owner and/or operator of a facility according to this section of this rule. e. Moisture testing is not required on a crusher and/or screen plant equipped with a baghouse or fabric filter, electrostatic precipitator, or wet scrubber, excluding wet spray bars, for control of particulate matter. f. Moisture testing shall include all aggregate material less than 0.25 inch in diameter. g. Moisture testing shall be conducted in accordance with the requirements of American Society For Testing And Materials C566-97 (2004) "Standard Test Method For Total Evaporable Moisture Content Of Aggregate By Drying" with the exception that smaller sample portions may be used."

Section 503: This revision adds "Compliance Determination For Emissions And Controls That Are Regulated By Section 301.1(e), Section 304, And/Or Section 306 Of This Rule: To determine compliance with the fugitive dust emission limitations described in Section 301.1(e), Section 304, and/or Section 306 of this rule, opacity observations shall be conducted in accordance with the techniques specified in Appendix C (Fugitive Dust Test Methods) of these rules."

Re-Numbered Section 504.1: This revision deletes "D2216-98" and adds "D2216-05." This revision deletes "1998" and adds "2005."

Re-Numbered Section 504.2: This revision deletes "D1557-91 (1998)" and adds "D1557-02e1." This revision deletes "1998" and adds "2002."

Re-Numbered Section 505.1: This revision adds "(not to exceed 6%)" and "(not to exceed 8%)."

Re-Numbered Section 505.2: This revision deletes "visible" and adds "soil." This revision deletes "/Steel Ball".

Re-Numbered Section 505.8: This revision deletes "of the EPA."

Re-Numbered Section 506: Re-numbered "Section 505" to "Section 506."

## **7. Demonstration of compliance with A.R.S. § 49-112:**



Under A.R.S. § 49-479(C), a county may not adopt a rule or ordinance that is more stringent than the rules adopted by the Director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the requirements of A.R.S. § 49-112.

A.R.S. § 49-112 (A):

When authorized by law, a county may adopt a rule, ordinance, or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition;
2. There is credible evidence that the rule, ordinance or other regulation is either:
  - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
  - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule, ordinance or other regulation is equivalent to federal statutes or regulations.

The MCAQD is proposing to revise Rule 316 in order to address a peculiar local condition: The Phoenix nonattainment area's air quality problem, as reflected in the EPA's finding that the Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline mandated in the Clean Air Act (CAA), December 31, 2006 and the agency's requirement that a revision to the State Implementation Plan (SIP) be submitted by December 31, 2007 (72 FR 31183, June 6, 2007). The Phoenix nonattainment area is the only nonattainment area designated serious for PM<sub>10</sub> in Arizona. Consequently stronger regulations must be adopted in this area to address a serious health threat, the continued failure to meet the health-based federal ambient air quality standards. Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas that fail to attain ambient air quality standards for particulate pollution are required to submit within 12 months of the applicable attainment date, "plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of the amount of such emissions as reported in the most recent inventory prepared for such area." In accordance with the CAA sections 179(d)(3) and 189(d)(3), the attainment deadline applicable to an area that misses the serious area attainment date is "as soon as practicable". The Phoenix nonattainment area is one of three areas in the entire country for which the EPA has issued a finding that Section 189(d) has been triggered. As described in Sections 6 and 10 of this draft Notice Of Final Rulemaking, Maricopa County and the EPA have concluded that the proposed revisions implement control measures that are technologically and economically feasible based on creditable evidence of implementation in other western and desert environments. No evidence has been submitted to the MCAQD that disputes this conclusion. Because of this, the revision complies with A.R.S. § 49-112 (A)(1) and A.R.S. § 49-112 (A)(2). In addition, several of the proposed revisions are required to by A.R.S. § 49-474.01(A)(5, 6 and 11), A.R.S. §§ 49-474.05 and 49-474.06

recently enacted in Senate Bill 1552. Therefore, a demonstration of compliance with A.R.S. § 49-112 as required by the County's general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to those proposed rule provisions.

**8. Reference to any study relevant to the rule that the agency reviewed and either relied or did not rely on in its evaluation or justification for the rule; where the public may obtain or review each study; all data underlying each study, and any analysis of the study and other supporting material:**

- Final Revised PM<sub>10</sub> State Implementation Plan For The Salt River Area, Air Quality Division, Arizona Department Of Environmental Quality dated August 2004 and the Revised PM<sub>10</sub> State Implementation Plan For The Salt River Area-Technical Support Document dated October 2004. To review, contact: Diane Arnst, Arizona Department Of Environmental Quality, Mailcode: 3415A-3, ADEQ Central Office, 1110 West Washington Street, Phoenix, Arizona 85007, 602.771.2375
- MAG 2007 Five Percent Plan For PM-10 For The Maricopa County Nonattainment Area dated December 2007 prepared by the Maricopa Association Of Governments. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov), 602.506.6710.
- Clark County, Nevada, BACT Analysis dated September 27, 2007. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov), 602.506.6710.
- 2005 Periodic Emissions Inventory For PM<sub>10</sub> For The Maricopa County, Arizona Nonattainment Area dated May 2007. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov), 602.506.6710.
- Appendix 2.2-Rule Effectiveness Study For Maricopa County Rules 310, 310.01, And 316 of the 2005 Periodic Emissions Inventory For PM<sub>10</sub> For The Maricopa County, Arizona Nonattainment Area dated May 2007. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov), 602.506.6710.
- AP-42 Chapter 13.2.4.3-Aggregate Handling And Storage Piles-Predictive Emission Factor Equations-Equation (1) dated November 2006. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov), 602.506.6710.

**9. Showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable

**10. Summary of the economic, small business and consumer impact:**

**10.1 Summary**

The Maricopa County Air Quality Department (MCAQD) is proposing revisions to Rule 316. As required by A.R.S. § 41-1055, this economic, small business and consumer impact statement includes a discussion of the persons most likely to be impacted by the proposed rule, along with a cost-benefit analysis of the proposed rule's probable impact on the MCAQD as the implementing agency and other public agencies, other political subdivisions of the state, and businesses affected by the proposed rulemaking. Where data are unavailable or highly uncertain, this statement discusses the limitations of the data, the methods used to develop qualitative and/or quantitative estimates, and attempts to characterize all probable impacts in qualitative terms.

To submit or request additional data on the information included in the economic, small business and consumer impact statement, please contact:

Jo Crumbaker or Johanna Kuspert

Planning and Analysis Division

Maricopa County Air Quality Department

1001 N. Central Ave. Suite 595

Phoenix, AZ 85004

[jcrumbak@mail.maricopa.gov](mailto:jcrumbak@mail.maricopa.gov) or [jkuspert@mail.maricopa.gov](mailto:jkuspert@mail.maricopa.gov)

### **10.2 Identification Of The Proposed Rulemaking**

Each proposed change to Rule 316 is described in detail under Item 6 above. While some changes are primarily administrative in nature or designed to clarify existing County air quality rules, a subset of the proposed rule changes have been deemed to have potentially significant economic impacts, and are thus explicitly addressed in this Economic Impact Statement (EIS). These rule changes and the relevant sections include:

Required control measure options for crushing and screening operations: Rule 316, § 301.2

Addition of operation and maintenance (O & M) plan requirements for dust control measures: Rule 316, § 305.2

20% opacity for a period aggregating more than three minutes in any 60-minute period: Rule 316, § 306.1

Requirement for facility information sign: Rule 316, § 308

Dust control training classes: Rule 316, § 310

### **10.3 Entities Expected To Be Affected By, Bear The Costs Of, Or Directly Benefit From The Proposed Rule Making**

Entities directly impacted by this rulemaking include certain permitted sources, pollution control vendors, contractors, consultants, lawyers, the County, private persons and consumers. With the revisions to Rule 316, Rule 316 requires compliance with emission limitations and the implementation of process controls and fugitive dust control measures for nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. An estimated 144 facilities in these industries are regulated by The Maricopa County Air Quality Department (MCAQD) and approximately 150 portable facilities that may operate in Maricopa

County are regulated by the Arizona Department Of Environmental Quality (ADEQ). Nonmetallic mineral processing plants and/or rock product plants can be classified into the following categories:

Construction Sand And Gravel

Industrial Sand And Gravel

Concrete Batching

Hot Mix Asphalt

Batch Mix

Parallel Flow Drum Mix

Counterflow Drum Mix

#### **10.4 Cost-Benefit Analysis**

##### **10.4.1 The probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the proposed rule making**

Rule 316, § 301.2 Required control measure options for crushing and screening process emissions: The

Maricopa County Air Quality Department (MCAQD) and ADEQ will incur the additional costs associated with the review of the revised dust control plans that incorporate the new moisture standard and sampling frequency as a result of modifying the required control measures for crushing and screening process emissions. 51 out of the 144 Maricopa County sources include crushing or screening. Assuming ADEQ has a similar percent, another 53 sources may have to revise their dust control plans. The MCAQD estimates that each review will take approximately 3 hours @ \$27.50 per hour resulting in a total cost of \$8580. No other agencies will be affected by this rule.

Rule 316, § 305.2: Addition of operation and maintenance (O&M) plan requirements for dust control measures:

The MCAQD and ADEQ will incur additional costs as a result of the change in the existing rule requiring owners/operators to revise their O&M Plan and incorporate the O&M Plan into the Dust Control Plan already required under this rule. The costs for 104 facilities were estimated in the paragraph above (51 out of the 144 Maricopa County sources include crushing or screening; ADEQ has another 53 sources may have to revise their dust control plans). The review of the revised plans for the remaining estimated 190 sources will total an additional \$15,675. No other agencies will be affected by this rule.

Rule 316, § 306.1: 20% opacity for a period aggregating more than three minutes in any 60-minute period: The MCAQD and ADEQ will not incur any additional costs associated with the use of the time-exception form of the opacity standard.

Rule 316, § 308 Requirement for facility information sign: The MCAQD and ADEQ will not incur any additional costs associated with the rule requirement for an owner/operator to install a facility information sign.

Rule 316, § 310 Basic dust control training classes: The MCAQD will hire four additional FTEs to coordinate and conduct dust control training. Annual costs associated with the four additional FTEs, database maintenance, training materials, and room rental are estimated to be \$382,000. One-time costs are estimated to be \$460,000 for database development, equipment costs, and training materials. The MCAQD estimates that approximately 10.7% of these costs will be allocated to the facilities and personnel subject to this rulemaking.

#### **10.4.2 Probable Costs And Benefits To Other Political Subdivisions of the State**

It is assumed that the only potential impact on other agencies and other political subdivisions of the state would be in a limited number of instances where these entities are themselves permit holders for activities regulated under Rule 316. As this occurs rather infrequently and these permits comprise only a small fraction of all regulated activity under Rule 316, it is anticipated that compliance with Rule 316 will impose no significant economic impact on any other agency or political subdivision of the state.

#### **10.4.3 Probable Costs And Benefits To Businesses Directly Affected By The Proposed Rulemaking**

##### Rule 316, § 301.2: Required control measure options for crushing and screening process emissions:

Owners/Operators regulated by Rule 316 with process emissions from crushing and screening operations will be required to pay for any increased cost associated with implementing one of the two possible control measure options provided under the rule revision as outlined above. There are no additional costs associated with the requirements of § 301.2(a) and § 301.2(b), since these requirements are currently required under the existing rule. The only cost increases are associated with one of the control measure options that requires operating watering systems to continuously meet soil moisture requirements and soil moisture testing under § 301.2(c) and the second control measure option that requires owners to enclose and exhaust the regulated process to a properly sized fabric filter baghouse under § 301.2(d). Available cost data are limited, but some example costs are discussed below. The baghouse system option was added in response to stakeholder comments in order to increase flexibility in the rule.

The requirement to operate watering systems to continuously meet soil moisture requirements is being applied in Clark County. Clark County is a desert environment with even less rainfall than Maricopa County. The implementation of watering systems to continuously meet soil moisture requirements in Clark County provides creditable evidence that the control measure is technologically and economically feasible. Stakeholders have indicated that many Maricopa County facilities are mining product with 2% to 6% moisture, which represents a significant difference from Clark County. However, the MCAQD believes that such circumstances actually indicate that Maricopa County facilities will not have to add as much water to maintain a minimum soil moisture content which should reduce the cost. The proposed revision implements control measures that are technologically and economically feasible based on credible evidence of implementation in other western and desert environments. No evidence has been submitted to the MCAQD that disputes this conclusion.

The total annual cost to install an 8000 cubic feet per minute baghouse used to control crushing emissions is estimated to be \$77,000 (Justice & Associates, Inc., 2007). The cited costs were based on a 1 year project life for a temporary construction project. The baghouse cost includes the purchase price, freight, taxes, insurance, engineering, enclosures, duct work, and compressor. Costs will vary depending on the required size which will be based on airflow throughput requirements.

The total annual cost of continuous watering to maintain soil moisture content is estimated to be \$111,000 (Justice & Associates, Inc., 2007). Each source will be required to sample an estimated 2 to 10 or more sample points. The proposed rule does include an option to reduce both the number of sample points after 20 samples and the frequency of sampling after sampling for 4 weeks. One-time only expenses will include the installation of sampling platforms and guards and the purchase of a scoop, scale and microwave. Assuming that each sample takes approximately 0.5 hours to take and process and a personnel cost of \$35.00 per hour, each sample will cost \$17.50. The per facility costs are estimated to range from \$35 to \$210 per test required. Per day costs are estimated to range from \$35 to \$420. The MCAQD has not received specific information on the labor costs and time necessary to better quantify the moisture testing impacts and solicits additional information at this time.

Rule 316, § 305.2 Addition of operation and maintenance (O&M) plan requirements for dust control measures:

Owners/operators of facilities under Rule 316 will be required to pay for the one-time costs associated with developing an O&M Plan and incorporating the O&M Plan into the Dust Control Plan already required under this rule. There is insufficient data at this time to delineate the labor time required to develop the O&M Plan.

Rule 316, § 306.1 20% opacity for a period aggregating more than three minutes in any 60-minute period: The new data reduction methods for the existing opacity standard will require that owners/operators more closely monitor their activities, processes, and controls to ensure proper operation at all times. Areas that successfully met the December 31, 2006 PM10 attainment date - Clark County, Nevada; South Coast Air Quality Management District, California (SCAQMD); and San Joaquin Unified Air Pollution Control District, California (SJUAPCD) and six out-of 14 western states that are members of the Western Regional Air Partnership (WRAP) - administer rules that include the data reduction methodology proposed in Rule 316. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the proposed standard.

Rule 316, § 308 Requirement for facility information sign: Owners/operators subject to this rule will bear the costs of installing the required facility information sign. Since the lettering on the sign is only required to be 4 inches high, costs are expected to be minimal.

Rule 316, § 310 Basic dust control training classes: It is anticipated that the MCAQD fee for the basic dust control training class will be \$25. Each attendee will spend 4 hours in class, plus an estimated 1.5 hours for travel time and recordkeeping. Assuming an average wage of \$24.23/hour, the indirect costs of registering under this program would be \$133.27, for a total cost per registrant of \$158.27, and a total cost on businesses of all sizes impacted by this rule of \$1,635,879.

Rule 316, § 309.2 Comprehensive dust control training class: It is anticipated that the MCAQD fee for the comprehensive dust control training class will be \$50. Each attendee will spend 8 hours in class, plus an estimated 1.5 hours for travel time and recordkeeping. Assuming an average wage of \$29.27/hour, the indirect costs of registering under this program would be \$278.07, for a total cost per registrant of \$328.07, and a total cost on businesses of all sizes impacted by this rule of \$654,162.

### **10.5 Impact On Private And Public Employment**

Estimates of increased workloads and anticipated additional staff (FTE's) required for the MCAQD to design, implement, and conduct the proposed programs associated with the proposed revisions to Rule 316 have been quantified individually in section 10.4.1 above. Since the MCAQD will be the implementing entity for such proposed programs, no other significant impacts on public-sector employment of other agencies or political subdivisions of the state are anticipated. The potential financial impacts on permit holders (businesses and individuals), on a per-case basis, and cumulative impacts on all permit holders, have been described and quantified, insofar as possible, in section 10.4.3 above.

Rule 316, § 301.2 Required control measure options for crushing and screening process emissions: As discussed above, owners/operators of facilities under Rule 316 with process emissions from crushing and screening operations will be required to pay for cost increases associated with implementing one of the two possible control measure options provided under the rule revision as outlined above. The businesses directly affected by the proposed Rule 316 revision may be forced to offset any additional costs incurred in order to comply with the proposed rules. Businesses may attempt to offset these additional costs by: (1) increasing prices of goods and services which may adversely affect sales; (2) reducing employee pay rates, and/or (3) eliminating jobs. Based on the cost data available, the MCAQD does not have sufficient data at this time to quantitatively evaluate potential employment impacts for businesses impacted by the proposed Rule 316 revision.

Rule 316, § 305.2 Addition of operation and maintenance (O&M) plan requirements for dust control measures: Owners/operators of facilities under Rule 316 will be required to pay for the one-time costs associated with developing an O&M plan and incorporating the O&M plan into the Dust Control Plan already required under this rule. Costs incurred by businesses under the proposed rule change are not expected to have any effect on employment.

Rule 316, § 306.1 20% opacity for a period aggregating more than three minutes in any 60-minute period: The MCAQD has not yet received process specific examples affected by this revision in data reduction methodology and does not believe that employment will be affected by the proposed rule change.

Rule 316, § 308 Requirement for facility information sign: Since costs for the installation of a facility information sign are expected to be minimal, employment will not be affected at businesses under the proposed rule change.

Rule 316, §§ 309.2 and 310 Basic and comprehensive dust control training class: It is anticipated that the MCAQD, as the implementing agency, will require approximately 2.2 additional FTE's to oversee and implement these programs. The MCAQD is currently in the planning stages to certify other third-party entities to conduct these training programs, so some additional private-sector employment impact is likely, but this impact cannot yet be quantified precisely.

#### **10.6 Probable Impact Of The Proposed Rule Making On Small Businesses**

For all proposed rule changes discussed in this analysis, a description of affected entities of all sizes is contained in Section 10.3 above. Due to constraints in time, available resources, and readily accessible current data, no reliable estimates on the separate impact on small businesses have yet been developed. Several rule changes such as the frequency of moisture testing and the requirement to have a dust control coordinator onsite at all times include size cut-offs. As a result the following general conclusion is preliminary. For the reasons stated in Item 6 of this draft Notice Of Final Rulemaking, and due to the inherent difficulty in identifying all sources which are small businesses, including the possibility that such status may change from year to year, the County has determined that it is not feasible to apply a separate standard to small businesses. The County does employ an ombudsman in the Business Resource Division, to whom small businesses may address their issues with regard to compliance with the rule.

##### **10.6.1 Alternative Methods Considered To Reduce Impact On Small Business**

Rule 316, §§309.2 and 310: Basic and comprehensive dust control training programs: The proposed rulemaking imposes training requirements for site superintendents or other on-site representatives for facilities with greater than 1 acre (43,560 sq. ft.) of disturbed surface area that are subject to a permit by the Control Officer. The only qualitative assessment conducted for business-size relates to the size of a facility's disturbed surface area. Based on this criterion, the financial and administrative burden will be more limited for facilities that do not meet the 1 acre size criteria. No other alternatives have been considered; the parameters of the proposed programs have been prepared to comply with ARS §49-474.05.

##### **10.6.2 Probable Cost And Benefit To Private Persons And Consumers**



All proposed changes to Rule 316 are designed to reduce particulate matter emissions with the ultimate goal of protecting the public health and welfare by attaining PM<sub>10</sub> and PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) throughout Maricopa County. A detailed description of the benefits for the public at large are excerpted from a cost analysis conducted by ADEQ (2004) and is provided below.

Improvement in air quality will generate cost-saving benefits by avoiding adverse-health effects, such as emergency room visits, hospital admissions, acute pediatric bronchitis, chronic adult bronchitis, acute respiratory symptom days, and even premature death. Potential benefits arising from a reduction in particulate matter and other pollutants emitted into the atmosphere can be inferred from data associated with the reduction of any airborne particulate matter (PM).

Some of health effects of human exposure to PM can be quantified while others cannot. Quantified adverse-health effects include: mortality, bronchitis (chronic and acute), new asthma cases, hospital admissions (respiratory and cardiovascular), emergency room visits for asthma, lower and upper respiratory illness, shortness of breath, respiratory symptoms, minor restricted activity days, days of work loss, moderate or worse asthma status of asthmatics. Unquantifiable adverse-health effects include: neonatal mortality, changes in pulmonary function, chronic respiratory diseases (other than chronic bronchitis), morphological changes, altered host defense mechanisms, cancer, and non-asthma respiratory emergency room visits (U.S. EPA, 1999a).

Epidemiological evidence shows that particulates have negative health impacts in a variety of ways, including: increased mortality and morbidity; more frequent hospital admissions, emergency room and clinician visits; increased need and demand for medication; and lost time from work and school. There is also increasing evidence that ambient air pollution can precipitate acute cardiac episodes, such as angina pectoris, cardiac arrhythmia, and myocardial infarction, although the majority of PM-related deaths are attributed to cardiovascular disease (The U.S. EPA's PM Health Effects Research Center Program, prepared by PM Centers Program staff, January 2002).

New evidence also links exposure to ambient PM concentrations to airway inflammation that in turn produces systemic effects, such as acute phase response with increased blood viscosity and coagulability, as well as increased risk of myocardial infarction in patients with coronary artery disease. Chronic effects of repeated airway inflammation may also cause airway remodeling, leading to irreversible lung disease. Individuals with asthma and chronic obstructive pulmonary disease may be at even higher risk from repeated exposure to particulates, according to the U.S. EPA's PM Health Effects Research Center Program.

The Health Effects Institute confirmed the existence of a link between particulate matter and human disease and death (premature mortality). The data revealed that long-term average mortality rates, even after accounting for the effects of other health effects, were 17-26% higher in cities with higher levels of airborne PM (Health

Effects of Particulate Air Pollution: What Does The Science Say Hearing before the Committee on Science, House of Representatives, 107th Congress of the U.S., second session, May 8, 2002). Data further reveal that every 10-microgram increase in fine particulates per cubic meter produces a 6% increase in the risk of death by cardiopulmonary disease, and an 8% increase for lung cancer. Even very low concentrations of PM can increase the risk of early death, particularly in elderly populations with preexisting cardiopulmonary disease (STAPPA/ALAPCO, 1996).

In 2002 alone, chronic obstructive pulmonary disease cost the U.S. more than \$32 million, a sum not including costs attributable to asthma (American Lung Association, 2003). In Arizona, deaths attributable to asthma have equaled or exceeded national rates from 1991-1998. In 1998, some 316,200 Arizonans suffered breathing discomfort or asthma related stress (ADHS, 2002).

The MCAQD expects that a reduction in PM potentially will create commensurate cost-saving benefits to the general public by contributing towards reducing these emissions-related health problems. The proposed Maricopa County rulemaking will help improve the general quality of life for the citizens of Maricopa County, particularly those residing near sources that have reduced PM emissions and other air pollutants associated with the manufacturing processes.

Health benefits can be expressed as avoided cases of PM related-health effects and assigned a dollar value. EPA used an average estimate of value for each adverse-health effect of criteria air pollutants. Table 1 contains valuation estimates from the literature reported in dollars per case reduced. For example, the table shows a value of \$401,000 (in 2006 dollars) per case of chronic bronchitis avoided.

**Table 1. Monetized Adverse-Health Effects Avoided From Exposure to PM**

<b>Adverse Health Effect *</b>	<b>Per Case Valuation (1990 dollars)</b>	<b>Per Case Valuation (2006 dollars)</b>
Mortality	\$4,800,000	\$7,403,800
Chronic bronchitis	\$260,000	\$401,000
Hospital admissions for respiratory conditions	\$6,900	\$10,640
Hospital admissions for cardiovascular conditions	\$9,500	\$14,650
Emergency room visits for asthma	\$194	\$299
Acute Bronchitis	\$45	\$69
Asthma attack	\$32	\$49
Moderate or worse asthma day	\$32	\$49
Acute respiratory symptom	\$18	\$28
Upper respiratory symptom	\$19	\$29
Lower respiratory symptom	\$12	\$19

Shortness of breath, chest tightness, or wheeze	\$5	\$8
Work loss day	\$83	\$128
Mild restricted activity day	\$38	\$59

\* An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others, i.e., children and elderly.

Source: Derived from U.S. EPA, 1999b. According to EPA, cost values of these illnesses tend to underestimate the true value of avoiding these adverse-health effects. Mean estimates of willingness-to-pay (WTP) were used to derive values, unless WTP values were not available, in which case, the cost of treating or mitigating the effects was used. The value of an avoided asthma attack, for example, would be a person's WTP to avoid that symptom.

Mortality in Table 1 actually refers to statistical deaths, or inferred deaths due to premature mortality. A small decline in the risk for premature death will have a certain monetary value for individuals, and as such, they will be willing to pay a certain amount to avoid premature death. For instance, if PM emissions are reduced so that the mortality risk on the exposed population is decreased by one in one-hundred thousand, then among 100,000 persons, one less person will be expected to die prematurely. If the average willingness-to-pay (WTP) per person for such a risk reduction were \$75, the implied value of the statistical premature death avoided would be \$7.5 million.

### 10.7 Probable Effect On County and State Revenues

If Arizona is unable to submit a plan that demonstrates a 5% per year reduction in PM10 and is unable to demonstrate attainment at the monitors based on implemented control measures such as this rule, the EPA will be required to make a nondiscretionary finding that Arizona has failed to submit and approvable plan. If the County and Arizona fail to correct the identified deficiencies - described in the EPA's nondiscretionary finding - within the timeframe specified in the EPA's nondiscretionary finding, the sanctions under § 179 of the Clean Air Act (CAA) will be imposed. Sanctions include loss of highway funds and stricter emission offset requirements for major sources. In addition, under § 110(c) of the CAA, the EPA would then need to promulgate a Federal Implementation Plan (FIP) no later than 24 months after the date of publication of the notice - the EPA's nondiscretionary finding.

Some of the proposed rule changes would result in increased fee revenue to the MCAQD. The MCAQD anticipates revising its fee schedule (under a separate rulemaking) in order to recoup the costs of designing, implementing, and administering new programs contained within the present rulemaking. A list of the proposed programs, along with estimates of proposed user fees and overall revenue projections, is as follows:

<b>Program</b>	<b>Est'd Users</b>	<b>Fee/User</b>	<b>Estimated Annual Revenue</b>
Basic Dust Control Training Class	10,336	\$25	\$258,400
Comprehensive Dust Control Training Class	1,994	\$50	\$99,700

No other significant impact on state or County revenues from the present rulemaking is anticipated.

#### **10.8 Alternative Methods Considered To Achieve The Purpose Of The Proposed Rulemaking**

Rule 316, §§309.2 and 310 Basic and comprehensive dust control training classes: No alternatives were considered; the parameters of the proposed programs have been prepared to comply with ARS §49-474.05.

#### **10.9 Data Availability And Limitations Of Assumptions**

The present draft of this economic impact statement was developed in accordance with ARS §41-1055 to assess the potential economic impacts of the proposed changes to Rule 316. Sources of data and any assumptions used to develop these estimates have been included in the discussion of these analyses; and where data are lacking or uncertain, this has been noted wherever possible. The MCAQD welcomes all interested parties to provide additional relevant information and documentation on the anticipated costs and benefits resulting from compliance with the proposed rule(s).

#### **11. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Johanna M. Kuspert or Jo Crumbaker Air Quality Department
Address:	1001 North Central Avenue, Suite #595, Phoenix, AZ 85004
Telephone:	602-506-6710 or 602-506-6705
Fax Number:	602-506-6179
E-Mail:	jkuspert@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

#### **12. Description of the changes between the proposed rule, including supplemental notices and final rule:**

Since the final draft of Rule 316 was published in the Notice Of Proposed Rulemaking on November 9, 2007 and in response to formal comments received during the formal comment period - November-December 2007, the following changes to Rule 316 have been made. These changes appear in the text of the final rule published in this draft Notice Of Final Rulemaking:

Rule 316, Section 220: In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, the definition of end of work day was proposed to read as follows: "The end of a working period that may include one or more work shifts but not later than 8 pm." In this draft Notice Of Final Rulemaking, to make the definition less ambiguous as to what is considered to be the end of a working period, because some sources work 24 hours a day. Propose to change the definition of end of work day such that it

reads: “The end of a working period that may include one or more work shifts. If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.”

Rule 316, Section 227: To add “or pit”.

Rule 316, Section 236: In the first sentence of the definition of open storage pile, to delete “which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more” and to add “that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet.” The intent is that the surface area of the storage pile is of concern - not the footprint of the storage pile.

Rule 316, Section 305: In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, “at all times” appeared as new text in the first sentence. In this draft Notice Of Final Rulemaking, to delete “at all times” from the first sentence of final draft Rule 316, Section 305. The first sentence in Section 305 to read as follows: “An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule.”

Rule 316, Re-Numbered Section 305.4: To delete “Section 305.1” and to add “Section 305.”

Rule 316, Section 306.3: In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, “and Section 306.2” was proposed to be deleted in the introductory sentence. In this draft Notice Of Final Rulemaking, “and Section 306.2” will not be deleted in the introductory sentence. In final draft Rule 316, Section 306.3 will remain un-changed and will read as follows: “Wind Event: The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meet the following conditions.” Final draft Rule 316, Section 306.3 will remain un-changed because the 20% opacity limitation and the visible emission limitation beyond the property line do not apply during a wind event, if the owner and/or operator of a facility meets the specified conditions.

Rule 316, Section 306.3(c)(1)(b): In Item #5 of the Notice Of Proposed Rulemaking - the section by section explanation of changes of the Notice Of Proposed Rulemaking - revisions to Section 306.3(c)(1)(b) were described as follows: “This revision deletes “Maintain a visible crust by applying water” and adds “Before and during active operations, apply water.” This revision deletes “or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule” and adds “to keep the soil visibly moist.” In draft Rule 316 that was submitted with the Notice Of Proposed Rulemaking, Section 306.3(c)(1)(b) did not show text that was proposed to be deleted as struck-thru. In this draft Notice Of Final Rulemaking in Item #6 - the section by section explanation of changes - are

described the same revisions to Section 306.3(c)(1)(b) as described in the Notice Of Proposed Rulemaking. Also, final draft Rule 316 that is being submitted with this draft Notice Of Final Rulemaking shows text that is being proposed to be deleted as struck-thru.

Rule 316, Section 307.7: In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, “so as to meet all of the requirements in this rule” appeared as new text. In this draft Notice Of Final Rulemaking, to add “applicable” to such new text. In final draft Rule 316, Section 307.7 will read as follows: “The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.”

Rule 316, Section 401: To delete “and the following schedule applies” and to add “except as follows.”

Rule 316, New Section 401.1: To add “Process Controls: Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.”

Rule 316, New Section 401.2(a): To add “The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008.”

Rule 316, New Section 401.3(a): To add “The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.”

Rule 316, Section 502: To add “(excluding Section 301.1(e))” to references to “Section 301”. The test methods listed in Section 502 apply to all of the activities described in Section 301 except for those activities described in Section 301.1(e). Also, to change “July 1, 2004” to “July 1, 2007” and to add “40 CFR Part 51, Appendix M, adopted as of July 1, 2007.”

Rule 316, Section 502.2: To add “(excluding Section 301.1(e))” to references to “Section 301”. The test methods listed in Section 502.2 apply to all of the activities described in Section 301 except for those activities described in Section 301.1(e). Also, to add “40 CFR Part 51, Appendix M, adopted as of July 1, 2007.”

Rule 316, Section 503: To add “Section 301.1(e)” in heading and in first sentence.

**13. A summary of the comments made regarding the rule and the department response to them:**

The Maricopa County Air Quality Department conducted three Public Workshops throughout the rulemaking process for Rule 316 – July-August 2007 - and received formal comments during the formal comment period –

November-December 2007 - from the Arizona Rock Products Association (ARPA) and the Joint Environmental Task Force. The formal comments and the MCAQD's responses to such formal comments are written below:

**Comment #1:**

The Arizona Rock Products Association (ARPA) suggests that the Department clearly identify all issues and concerns (including those raised by stakeholders) and explain how the Department proposes to address them during the stakeholder process in order to allow them the opportunity to provide important feedback and/or to identify other potential issues or provide suggestions. Without clearly identifying the issues and concerns of the Department and affected stakeholders or providing an explanation on how the Department proposes to address those issues and concerns, stakeholders have no meaningful opportunity to participate in the process.

**Response #1:**

The Maricopa County Air Quality Department (MCAQD) is committed to an open and collaborative rulemaking process and had endeavored to provide all interested stakeholders opportunities to provide review and feedback throughout the rule development process. The MCAQD held three public workshops (August 30, September 9, and September 17, 2007) to offer all interested parties the opportunity to discuss drafts of the proposed rules, ask questions of the MCAQD rulemaking staff, express their concerns, and provide feedback. During these public workshops and throughout the rule development process, the MCAQD described the proposed changes to Rule 316 that are designed to address deficiencies and clarifications identified by the U.S. Environmental Protection Agency (EPA). Stakeholders were also notified during the public workshops regarding proposed rule changes that were introduced to comply with commitments required as part of the Maricopa Association Of Governments (MAG) Five Percent Plan for PM-10. Under §189(d) of the federal Clean Air Act, 42 U.S.C. §7513a(d), Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As described in Item 6 of this draft Notice Of Final Rulemaking, obtaining from the EPA an extension of the State's deadline for complying with the PM-10 air quality standard was contingent upon demonstrating to the EPA that the SIP includes the most stringent measures that are included in the implementation plan of any State or that are achieved in practice in any State and can feasibly be implemented in this area.

**Comment #2:**

ARPA objected to inclusion in the rule of new requirements based on Best Available Control Measures (BACM) and Most Stringent Measures (MSM), questioning whether the EPA's proposed approval of a prior version of Rule 316 indicated that inclusion of the new measures is not necessary to ensure the EPA approval of the rule and the SIP: "Notwithstanding the proposed approval of the June 8, 2005 version of Rule 316 by the EPA on July 12, 2006 as meeting BACM/MSM requirements, ARPA understands that the EPA staff provided the Department with an email dated July 9, 2007, which states that the Department 'has not adequately demonstrated that it implements BACM...and include MSM.' The Department has identified this email and other conversations with the EPA staff as the justification for now imposing several new requirements in Rule

316 that are presumably modeled after controls implemented in other jurisdictions after the revisions to Rule 316 to meet federal BACM/MSM requirements were adopted.”

**Response #2:**

ARPA is correct that the EPA’s position with regard to BACM and MSM was among the reasons for inclusion of the additional measures in the final version of Rule 316, as further explained in Item 6 of this draft Notice Of Final Rulemaking but mistaken about the impact of the EPA’s prior proposed approval, which does not negate the requirement in this rule for Maricopa County to identify and adopt BACM and MSM. In finalizing the approval of adopted rules, resolutions and measures submitted by the state for the Revised PM-10 SIP for the Salt River Area cited above, the EPA noted that, “The EPA is not, however, including Rule 316 in this final action because we are re-evaluating the rule and expect to address it in a separate rulemaking.” (72 FR 46564, August 21, 2007) The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM-10 nonattainment areas. The EPA noted that other jurisdictions require nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. For example, Clark County, Nevada has imposed these requirements on a case-by-case basis for more than 10 years. Since these requirements are more stringent than those defined in the 2005 rule revision and have played an integral role in allowing Clark County to attain the PM-10 NAAQS, Maricopa County has incorporated similar requirements into Rule 316 as representing BACM/MSM. The EPA’s July 9, 2007 correspondence (transmitted via e-mail) states unequivocally that the EPA believes the additional measures are necessary for final approval of Rule 316 and the SIP, of which Rule 316 is a necessary component: “Maricopa County Air Quality Division (MCAQD) revised Rule 316, “Nonmetallic Mineral Processing,” on June 8, 2005. On July 12, 2006 (71 FR 39251), EPA proposed to approve this rule as a SIP revision pursuant to Clean Air Act (CAA) section 110(k). EPA received extensive comments on its proposed approval during the public comment period. Thereafter, on April 12, 2007, in connection with state court litigation on the rule, MCAQD issued a clarification document (Clarification). The Clarification contains MCAQD’s interpretation of various provisions of Rule 316 as adopted on June 8, 2005. EPA understands that MCAQD intends to address the issues raised in the Clarification in upcoming additional revisions to Rule 316. As a result of the public comments on EPA’s proposed action and the interpretations proffered by MCAQD in the Clarification, we have re-evaluated Rule 316 and now believe that MCAQD has not adequately demonstrated that it implements best available control measures (BACM) required by CAA section 189(b)(1)(B) and includes most stringent measures (MSM) required by CAA section 188(e).” The EPA confirmed its position with regard to Rule 316 during public comment on the Department’s Notice Of Proposed Rulemaking, by letter dated December 3, 2007. In the letter, the EPA reiterated its position that “we do not think that the [June 8 version of Rule 316] could meet the Best Available Control Measures (BACM) requirements in the Clean Air Act Section 189(b)(1)(B) and the Most Stringent Measures (MSM) requirements in Section 188(e) without the inclusion of a moisture content standard for crushing and screening operations and the associated testing requirements.” The EPA likewise confirmed its position that the moisture content standard and testing requirements are necessary for approval of Rule 316 and the SIP during public comment herein, by letter dated December 3, 2007, stating: “we believe that the current



proposed revisions to Rule 316 meet the Clean Air Act BACM and MSM requirements. Moreover, we believe that the emission reduction that will be achieved by strengthening Rule 316 are vital for Maricopa County's continuing efforts towards attaining the 24-hour PM-10 standard."

**Comment #3:**

ARPA commented that: "The Department's Notice Of Proposed Rulemaking restates that 'The EPA has advised Maricopa County that Rule 316 has not included all BACM and MSM for nonmetallic mineral mining sources.' As indicated in the Department's Notice of Rulemaking Docket Opening, the current revisions to Rule 316 were not intended to address BACM/MSM requirements. More importantly, the current rulemaking process does not provide another opportunity for the Department or the EPA to pour [sic] over new requirements in other jurisdictions for purposes of imposing additional requirements in Maricopa County under the guise of updating the BACM/MSM demonstrations in the June 8, 2005 Rule 316 revisions...even if BACM/MSM requirements somehow provided a justification for now imposing new requirements in the current Rule 316 revision process, the Department has not conducted the necessary technical and economic feasibility analysis for implementing such requirements in Maricopa County. Any proposed revisions without such analysis do not meet federal BACM/MSM requirements and are invalid under Arizona law."

**Response#3:**

Maricopa County publishes A Notice Of Rulemaking Docket as a courtesy to the public and affected stakeholders. The scope of rule revisions and/or corrections is not limited to that outlined in the docket opening. The docket opening does serve to inform the public that a particular rule will be opened and issues addressed. The Department also published a separate docket opening for the Five Percent Plan Rulemaking that applied to the listed rules and other rules that may be affected. The statement that "the current rulemaking process does not provide another opportunity for the Department or the EPA to pour over new requirements in other jurisdictions..." is in error. During the course of reviewing the June 2005 Rule 316 revisions, the EPA determined that the BACM/MSM requirements of the revision were deficient based on more stringent requirements successfully implemented in other jurisdictions. In response to this deficiency, Maricopa County incorporated additional requirements to ensure that MSM is applied to applicable facilities in the Maricopa County PM-10 nonattainment area. The BACM/MSM requirements added to the proposed rulemaking were successfully implemented in other jurisdictions such as Clark County and are currently in practice in a desert environment; therefore, the technical feasibility is not in question. The MCAQD conducted an economic feasibility analysis, which is included in the Notice Of Proposed Rulemaking.

**Comment #4:**

ARPA objected to "piling on of additional requirements," as follows: "The 2005 revisions to Rule 316 contained several additional requirements purportedly to 'enhance' Rule 316 without any justification as to whether the requirements met BACM/MSM requirements. Similarly, the currently proposed revisions to Rule 316 contain additional requirements without any showing by the Department that such requirements are necessary or that they result in any demonstrable environmental benefit."

**Response #4:**

As further explained in response to comment #2 and in Item 6 of this draft Notice Of Final Rulemaking, the additional measures are required as a matter of federal law and do comply with the provisions of Arizona Revised Statute (A.R.S.) §49-112. ARPA's comment calls for Maricopa County and the State, in order to refrain from further regulating ARPA member operations, to induce the EPA disapproval of the SIP, which disapproval would trigger significant sanctions and likely prompt imposition of a federal implementation plan (which plan would likewise include the measures to which ARPA objects). At the time the June 2005 rule revision was published, an analysis was conducted with the best available data to determine BACM/MSM for applicable facilities in the Maricopa County nonattainment area. The EPA identified deficiencies and recommended clarifications during its review of 2005 rule revisions as stated in the agency's July 9, 2007 correspondence to the MCAQD and ADEQ. The following changes were made to Rule 316 to address those comments:

- 1) Revisions to require control measure options for crushing and screening operations.
- 2) Addition of operation and maintenance (O&M) plan requirements for dust control measures.
- 3) Requirement for dust control training classes.

Additional rule changes were made to comply with commitments made in the Five Percent Plan for PM-10. Under Section 189(d) of the Clean Air Act, Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. Other changes were made to keep Maricopa County Air Pollution Control Rules consistent and uniform as identified in the Notice Of Proposed Rulemaking.

**Comment #5:**

ARPA objected to a "lack of specificity" for the basis of rule revisions, as follows: "Because the Notice Of Proposed Rulemaking lumps together the purported basis and authorities for all of the proposed revisions to Rule 316, the public is unable to determine whether the County's demonstration of compliance with A.R.S. §49-112 (or any other purported authority) has been met for individual Rule 316 revisions. Without clearly and specifically identifying the basis and authority and the grounds and evidence of compliance with A.R.S. §49-112 for each of the Rule 316 revisions, the Notice Of Proposed Rulemaking provides no meaningful opportunity to comment as required by A.R.S. §49-112."

**Response #5:**

As set forth more fully in response to comment #2 and in Item 6 of this draft Notice Of Final Rulemaking, Maricopa County has met its burden of demonstrating compliance with A.R.S. §49-112. All of the changes in the proposed rule have been made to address deficiencies and recommended clarifications identified by the EPA in the July 9, 2007 correspondence from the EPA to the MCAQD and ADEQ and to incorporate commitments made in the MAG Five Percent Plan for PM-10. Other changes were made to keep Maricopa County Air Pollution Control Rules consistent and uniform as identified in the Notice of Proposed Rulemaking. A.R.S. §49-112 allows a County to adopt a regulation more stringent than general state law when doing so is (1) necessary

to address a peculiar local condition; and (2) either (a) necessary to prevent a resulting significant threat to public health and technologically and economically feasible or (b) required under a federal statute or regulation. Maricopa County's PM-10 problem is a peculiar local condition within the meaning of A.R.S. §49-112(A)(1). The EPA determined that the Maricopa County nonattainment area did not attain the 24-hour PM-10 standard by the deadline mandated in the CAA, December 31, 2006 (72 FR 31183, June 6, 2007). The rule revisions were also "required under federal statute or regulation" within the meaning of A.R.S. §49-112(A)(2)(b). Under Section 189(d) of the CAA, serious PM-10 nonattainment areas like Maricopa County that fail to attain PM-10 standards are required to submit within 12 months of the applicable attainment date, "plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for the annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5% of the amount of such emissions reported in the most recent inventory prepared for such area." Maricopa County submitted a Five Percent Plan for PM-10 in December 2007. The Maricopa County nonattainment area is one of three areas in the entire country for which the EPA has issued a finding that Section 189(d) has been triggered. Further, CAA Section 188(d) makes an extension of the attainment deadline for serious nonattainment areas contingent upon inclusion in the SIP of the Most Stringent Measures (MSM) included in the implementation plan of any other State and which can feasibly be implemented in the plan. The moisture content and other measures included in Rule 316, as revised, constitute MSM, as they are implemented in Clark County, Nevada and therefore are part of the Nevada SIP, and can be feasibly implemented in Maricopa County. In addition, several of the proposed revisions are required by A.R.S. §§49-474.01(A)(5), (A)(6), and (A)(11), recently enacted in Senate Bill 1552. Therefore, a demonstration of compliance with A.R.S. §49-112 as required by the County's general grant of rulemaking and ordinance authority in A.R.S. §49-479 does not apply to those proposed rule provisions.

**Comment #6:**

ARPA objected that the rule contained an "incomplete and unsupported economic, small business, and consumer impact statement": "The Department has not considered all of the costs to businesses affected by the proposed rulemaking. The Department has made no demonstration that the proposed Rule 316 revisions will result in any decrease in particulate matter emissions whatsoever. Without any evidence that the proposed revisions will result in any reduction in particulate emissions, the purported benefits are unsupported. With no demonstrable benefits, the Notice Of Proposed Rulemaking's cost-benefit analysis does [not?] satisfy the requirements of A.R.S. §41-1055."

**Response #6:**

The economic, small business, and consumer impact statement was based on the best available data at the time of the proposed rulemaking. In accordance with A.R.S. §41-1055, data limitations were noted wherever possible and Section 9.9 of the Notice Of Proposed Rulemaking noted that "...the MCAQD welcomes all interested parties to provide additional relevant information and documentation on the anticipated costs and benefits resulting from compliance with the proposed rule(s)." On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted

that Maricopa County had not identified all BACM/MSM that pertain to nonmetallic mineral processing facilities as required for serious PM-10 nonattainment areas. To address this deficiency, Maricopa County has incorporated proper BACM/MSM requirements for nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. These requirements have been successfully implemented in other jurisdictions to attain the PM-10 national ambient air quality standards (NAAQS). Therefore, the reduction in particulate emissions and expected benefits are well supported. The Maricopa Association Of Governments (MAG) has now completed the Five Percent Plan. Since that data is now available, the Department will add text to the economic analysis to estimate emission reductions. The Department is unable, however, to separate the increase in compliance among individual measures that are designed to increase compliance. Since the comment still does not provide information on existing moisture contents, the Department will assume an average baseline moisture content in Maricopa County of 1.5%, which is consistent with background information collected from AP-42 Chapter 13.2.4.3-Aggregate Handling And Storage Piles-Predictive Emission Factor Equations-Equation (1) dated November 2006. This is the upper end of moisture contents found in Clark County. Using AP-42, the MCAQD estimates that increasing the soil moisture content from 1.5% to 4% will raise the control efficiency from 81.5% to 95.3% for crushing and screening emissions. Under Section 189(d) of the Clean Air Act, Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As part of the 5% emissions reduction plan, the final Rule 316 revision includes changes in the data reduction method for opacity observations from EPA Reference Method 9 to EPA Reference Method 203B for certain dust generating operations. The use and enforcement of Method 203B ensures emissions reductions by limiting the total number of exceedances of the opacity standard over a 1 hour time span. The benefits of the proposed rule changes have been clearly demonstrated since they have been proven to reduce emissions and improve air quality conditions in other jurisdictions; therefore, the requirements of A.R.S. §41-1055 have been satisfied.

**Comment #7:**

ARPA commented that: “The economic, small business, and consumer impact statement does not provide a description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed rulemaking as required by A.R.S. §41-1055.”

**Response #7:**

On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM-10 nonattainment areas. To address this deficiency, Maricopa County has incorporated proper BACM/MSM requirements for nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. These requirements have been successfully implemented in other jurisdictions to attain the PM-10 NAAQS. Under Section 189(d) of the Clean Air Act, Maricopa

County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As part of the 5% emissions reduction plan, the final Rule 316 revision includes changes in the data reduction method for opacity observations from EPA Reference Method 9 to EPA Reference Method 203B for certain dust generating operations. The use and enforcement of Method 203B ensures emissions reductions by limiting the total number of exceedances of the opacity standard over a 1 hour time span. Maricopa County analyzed various control measure options, including those used in other jurisdictions, in the development of the proposed rule changes. It was determined that the 4% moisture content standard and testing requirements represent BACM/MSM for the serious PM-10 nonattainment area. The Department determined that, although a number of moisture testing devices are available, the less time-consuming devices had various limitations and still had to be calibrated to the ASTM C566-97 (2004) test method in the rule. With appropriate QA/QC plans, however, these other devices may be used for parametric monitoring after demonstrating correlation to the ASTM C566-97 (2004) "Standard Test Method For Total Evaporable Moisture Content Of Aggregate By Drying". Rule 316, Section 301.2(c)(4) provides owners/operators the opportunity to submit an alternative compliance demonstration equivalent to the soil moisture test requirements. Rule 316, Section 301.2(c)(3) also provides owners/operators with an opportunity to submit a demonstration to reduce the number of sampling points and the frequency of sampling following the initial sampling regime described in the rule. Since alternative control measures were considered for all proposed rule changes, all requirements of A.R.S. §41-1055 have been addressed.

**Comment #8:**

ARPA commented that: "The proposed revisions expand the definition of a 'nonmetallic mineral processing plant, and therefore applicability of Rule 316' to include any facility that involves 'raw material storage and distribution.' Because the Department has not provided any justification for expanding applicability of the rule, ARPA requests that the Department either withdraw the proposed revision or provide the necessary demonstration that the expansion is necessary in accordance with A.R.S. §49-112(A)."

**Response # 8:**

The proposed revisions to Rule 316, Section 235 make the rule consistent with the MCAQD's current interpretation and application of the rule.

**Comment #9:**

ARPA commented that: "Washed sand and aggregate does not contain silt and therefore should be expressly excluded from the definition of "open storage pile" without requiring facilities to repeatedly show that the silt content of the material is less than 5% by conducting testing in accordance with ASTM Method C136-06."

**Response #9:**

A pile of bulk material with less than 5% silt content does not meet the definition of an "open storage pile" under Rule 316, Section 236. The Department would accept results of QA/QC tests performed for product specification documentation on washed sand and aggregate that remains uncontaminated.

**Comment #10:**

ARPA commented that: "The Department has inappropriately proposed to expand the requirement to install a cohesive hard surface to essentially all areas of a facility without justification. Furthermore, it is unclear when and how it would be determined that an area would be considered permanent (e.g., after the area remained in place 180 days) and what stabilization measures would be sufficient in the interim (e.g., application of water). ARPA therefore requests that the proposed definition of 'permanent areas of the facility' either be withdrawn or revised accordingly in light of ARPA's comments on Section 307.4(d)."

**Response #10:**

The definition of "permanent areas of a facility" under Rule 316, Section 240 has been added to Rule 316 simply to clarify existing fugitive dust control requirements for on-site traffic under Rule 316, Section 307.4. By extension, this definition also clarifies existing fugitive dust control requirements for haul access roads "that are not in permanent areas of a facility." "Permanent areas of a facility" is explicitly defined in terms of the specific areas of a facility which will incur various forms of traffic over a specified duration of time (i.e., 180 days or more during a twelve month period). This list of specific areas was formerly provided in Rule 316, Section 307.4(a). For areas not meeting the definition under Rule 316, Section 240, vehicle traffic fugitive dust emissions must meet the requirements under Rule 316, Sections 303.3 and 307.2. The appropriate designation and identification of surfaces in the approved Dust Control Plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement. See also the responses to comments #24 and #26.

**Comment #11:**

ARPA commented that: "Rather than expressly link the obligation to use watering systems to meet the applicable performance standards (i.e., the process emission limitations in Section 301.1), for which compliance is determined via the test methods already specified in Section 502, the proposed revisions require that water systems be operated continuously to meet an arbitrarily established 4% minimum moisture content standard for all types of crushing and screening facilities. The proposed revisions then 'pile on' additional requirements (e.g., up to twice daily moisture content testing requirements with associated recordkeeping) to ensure compliance with the new moisture content standard. ARPA objects to this approach."

**Response #11:**

The performance standards in Rule 316, Section 301.1 are derived from the NSPS. However, the NSPS no longer represents BACM/MSM. The proposed revisions for mandatory control options under Rule 316, Section 301.2 require owner/operators "to continuously maintain a 4% minimum moisture content" or alternative moisture content approved by the Control Officer. The rule changes do not require continuous operation of watering systems only that the systems be continually operable. In response to deficiencies in the present Rule 316 noted by the EPA, the 4% minimum moisture requirement was determined to represent BACM/MSM based on review of "in place, in practice" control measures utilized in other jurisdictions. Best Available Control Technology (BACT) analyses submitted in Clark County over a period of more than 10 years frequently determined that a moisture content standard of 4% represented BACT. In Rule 316, Section 301.2(c)(4),

however, the Department has included a provision for submission of an alternative compliance demonstration plan that justifies a minimum moisture content other than 4%. Based on information from Clark County and background information collected from AP-42 Chapter 13.2.4.3-Aggregate Handling And Storage Piles-Predictive Emission Factor Equations-Equation (1) dated November 2006, the MCAQD estimates that increasing the moisture content from 1.5% to 4% increases the control efficiency from 81.5% to 95.3%. As a result, maintaining a 4% minimum moisture content becomes the performance standard necessary to implement BACM/MSM and obtain the associated emission reductions. The proposed moisture testing and recordkeeping requirements are the only way to ensure compliance with the moisture content standard and thus obtain required MSM emissions reductions for the Maricopa County serious PM-10 nonattainment area.

**Comment #12:**

ARPA commented that: “Moisture content measurements are currently included in air quality regulations for Clark County, Nevada and so these are MSM, however the Clark County rules do not specify a default value for minimum moisture content. Rather, Clark County Section 34.4.3 suggests that minimum moisture contents are established on a case-by-case basis for each facility's permit. Therefore, the value of 4% as a minimum limit is not justified on an MSM basis.”

**Response #12:**

While it is true that Clark County's air quality rules do not specify a specific minimum moisture content standard, Best Available Control Technology (BACT) analyses submitted in Clark County over a period of more than 10 years frequently result in a moisture content standard of 4%. Consistent with this finding, the 4% minimum moisture content was selected as representing BACM/MSM for the Maricopa County serious nonattainment area. To implement this level of control for all sources in Maricopa County regardless of site-specific conditions but without having to conduct a case-by-case analysis, the MCAQD has proposed that maintaining a minimum soil moisture content of 4% represents an effective level of BACM/MSM. However, since there are site-specific conditions that may justify a different minimum moisture content, the MCAQD has also provided for the submittal of a site-specific justification for an alternative minimum soil moisture content to be approved by the Control Officer and the Administrator. Examples of site-specific factors include the following: (1) if a process includes a fine mesh screen, mined products that contain significant silts or clays may blind the screen leading to downtime and added emissions from startup/shutdown and (2) an asphalt batch plant may demonstrate that more emissions are produced by the fuel burned to dry materials prior to batching than are reduced by increasing the moisture content to increase control efficiency. The proposed rule also provides that an owner/operator may submit documentation demonstrating that an alternative moisture testing protocol correlates with the reference test method and protocol or demonstrating that reducing the number of sampling points and/or reducing sampling frequency correlates with the protocol described in the rule.

**Comment #13:**

ARPA commented that: “Current AP-42 guidelines for conveyor transfer points list an uncontrolled emission factor of 0.00100 lbs/ton, based on a study group of facilities operating at moisture contents ranging from 0.21% and 1.3% and a controlled emission factor of 0.000046 lbs/ton, based on a study group operating at

moisture contents ranging from 0.55% to 2.88%. These emission factors are far different than the corresponding values of 0.039 lbs/ton and 0.0041 lbs/ton (at 1.5% moisture content) that are referenced in the Clark County study "PM-10 Emission Control Study for Sand and Gravel Facilities". Clearly the predictive equation utilized in the study has been determined to be ineffective by the EPA, and Maricopa County should not rely upon it as a scientific basis for 4% moisture requirement.”

**Response #13:**

AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM; thus, the emission factors with the associated moisture contents do not represent BACT/BACM. The majority of source tests cited in the AP-42 background information came from tests performed in the southeastern United States in climates that are distinctly different from the arid southwest. Further, the cited Clark County study was not used as the basis for selection of the 4% minimum moisture content standard. While the AP-42 factors have been updated since the Clark County study cited above, the effect of increasing the moisture content is the critical factor as Maricopa County now uses the updated AP-42 emission factors. As stated above, BACT analyses submitted in Clark County over a period of more than 10 years indicate that a moisture content of 4% represented BACT. It is appropriate to use AP-42 uncontrolled emission factors, but jurisdictions such as Clark County have developed their own control efficiency benchmarks. Since Clark County is an arid environment similar to Maricopa County, the 4% minimum moisture content standard was selected as representing BACM/MSM for the Maricopa County serious nonattainment area. Based on information from Clark County and background information collected from AP-42 Chapter 13.2.4.3-Aggregate Handling And Storage Piles-Predictive Emission Factor Equations-Equation (1) dated November 2006, the MCAQD estimates that increasing the moisture content from 1.5% to 4% increases the control efficiency from 81.5% to 95.3%. As a result, maintaining a 4% minimum moisture content becomes the performance standard necessary to implement BACM/MSM and obtain the associated emission reductions. The proposed moisture testing and recordkeeping requirements are the only way to ensure compliance with the moisture content standard and thus obtain required MSM emissions reductions for the Maricopa County serious PM-10 nonattainment area.

**Comment #14:**

ARPA commented that: “A 4% minimum moisture content is by documentation unsupportable and ARPA requests that it be removed from the language. ARPA proposes the following revised language to implement the previously stated intent of the current rulemaking: ‘For crushing and screening facilities, the owner and/or operator of a nonmetallic mineral processing plant shall implement and operate all of the following process controls as necessary to comply with Section 301.1...’”

**Response #14:**

The performance standards in Rule 316, Section 301.1 are derived from the NSPS. However, the NSPS no longer represents BACM/MSM. As stated above, BACT analyses submitted in Clark County over a period of more than 10 years indicate that a minimum moisture content of 4% represented BACT. Since Clark County is



an arid environment similar to Maricopa County, the 4% minimum moisture content standard was selected as representing BACM/MSM for the Maricopa County serious nonattainment area.

**Comment #15:**

ARPA commented that: “ARPA would support adoption of a minimum moisture content of 2%. This value is slightly higher than mid-range of 0.55% to 2.88% currently listed in AP-42 for the controlled emission factor. However, this proposal is put-forth with certain conditions pertaining to imposition of reasonable sampling requirements and consequences for occasional excursions from the minimum moisture requirement.”

**Response #15:**

AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM; thus, the emission factors with the associated moisture contents do not represent BACT/BACM. The majority of source tests cited in the AP-42 background information came from tests performed in the southeastern United States in climates that are distinctly different from the arid southwest. Since Clark County is an arid environment similar to Maricopa County, the regulatory determinations of BACT in Clark County over more than a 10 year period is the only reliable source for determining MSM in the serious nonattainment area. BACT has been defined for nonmetallic mineral processing facilities in Clark County as ranging from 4% minimum moisture content.

**Comment #16:**

ARPA commented that: “Maricopa County is proposing that crushing and screening facilities must collect samples for moisture testing at all crushers, shaker screens, and material transfer points. There is no technical justification that moisture testing should be required at every transfer point. The rule would impose an undue burden on the industry where over a dozen transfer points is common. Frequently, these transfer points, particularly conveyor belts, are permanently mounted well above six feet making access difficult. Sampling at each point would require installing permanent ladders or similar access, requiring additional MSHA regulatory exposure and safety accommodations. ARPA suggests a fair compromise based on the AP-42 language would be to require sampling at three locations: the entry point, the final stockpiles, and the outlet of the crusher.”

**Response #16:**

AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM. The proposed moisture testing and recordkeeping requirements are nearly identical to those successfully implemented as BACT in Clark County, Nevada for nonmetallic mineral processing facilities. In addition, owner/operators do have the option to reduce the number of sampling points by meeting the requirements outlined in Rule 316, Section 502.3(d). Since these requirements have been promulgated and are currently being enforced in another similar jurisdiction, the proposed rule changes are not expected to impose an undue burden on the industry within Maricopa County.

**Comment #17:**

ARPA commented that: “ARPA notes that the proposed rule does not identify any response plan or consequences for those situations where required sampling indicates that actual moisture contents are less than the specified minimum moisture content. This situation causes a great deal of concern among ARPA members

because of the potential for the MCAQD to issue notices of violation (NOVs) for the full period of time between an unacceptable sampling result and the subsequent next acceptable sampling result. This is especially troubling when considering that minor excursions from any given value for minimum moisture content would not necessarily result in increased emissions or opacity readings that would violate an applicable requirement. ARPA requests that the proposed rule be revised to state that excursions from the minimum moisture content would solely indicate that additional water or other corrective actions must be applied and documented. Failure to take such corrective actions could result in an NOV; sampling results in and of themselves that are less than the specified minimum moisture content would not result in an NOV. Under Section 312.1, owner/operators are required to comply at all times with the minimum moisture standard. Therefore, it is clear that immediate corrective action must be taken if consecutive moisture tests are below 4%.”

**Response #17:**

Under Rule 316, Section 301.2(c), owner/operators are required to comply at all times with the minimum moisture standard. Therefore, it is clear that immediate corrective action must be taken if a moisture test is below 4%. However, as indicated in Rule 316, Section 301.2(c)(3)(d), the MCAQD does not intend to issue an NOV for a single test result below the designated moisture content if the facility remains in compliance with the other standards in Rule 316, Section 301.1. If corrective actions are immediately implemented after failing to meet the minimum moisture content standard, compliance should be demonstrated through subsequent moisture tests.

**Comment #18:**

ARPA commented that: “Because it is impossible to maintain any control equipment ‘in calibration’, ‘in good working order’, and ‘in operation’ at all times, the proposed requirement is unachievable. As drafted, the proposed revision does not allow for inevitable periods of downtime. Furthermore, it is not feasible or necessary for certain control equipment to be operated at all times. ARPA therefore proposes the following language to replace the first sentence: ‘An owner and/or operator of a facility shall, to the extent practicable, install, operate, and maintain control equipment required by this rule in a manner consistent with good air pollution control practices for complying with the applicable process emission limitations of this rule.’”

**Response #18:**

In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, “at all times” appeared as new text in the first sentence. In this draft Notice Of Final Rulemaking, to delete “at all times” from the first sentence of final draft Rule 316, Section 305. The operation of control equipment is described in the appropriate standards sections in Rule 316. However, downtime associated with malfunctions, emergencies, and scheduled maintenance is addressed in Maricopa County Air Pollution Control Regulations Rule 130 and Rule 140.

**Comment #19:**

ARPA commented that: “Proposed Rule 316, Section 305.2(b) should be withdrawn, as the requirement to comply with O&M plans is already addressed by Section 305.4 - O&M Plan Responsibility.”

**Response #19:**

New O&M Plan requirements are included in Rule 316, Section 305.2, which are specific to fugitive dust control measures. These requirements are not to be confused with the existing O&M Plan requirements in current Rule 316, Section 305, which are specific to an Emission Control System (ECS).

**Comment #20:**

ARPA commented that: “Because the Department has not demonstrated that achieving continuous compliance with the Section 306.2 limitation is technically or economically feasible or necessary as required under A.R.S. §49-112(A), ARPA requests that the proposed removal of the wind event exclusion for Section 306.2 be withdrawn.”

**Response #20:**

In recognition of the challenges presented by wind events, the MCAQD has put Rule 316, Section 306.2 back into Rule 316, Section 306.3. In the final draft of Rule 316 that was published in the Notice Of Proposed Rulemaking on November 9, 2007, “and Section 306.2” was proposed to be deleted in the introductory sentence. In this draft Notice Of Final Rulemaking, “and Section 306.2” will not be deleted in the introductory sentence. In final draft Rule 316, Section 306.3 will remain un-changed and will read as follows: “Wind Event: The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meet the following conditions.” Final draft Rule 316, Section 306.3 will remain un-changed because the 20% opacity limitation and the visible emission limitation beyond the property line do not apply during a wind event, if the owner and/or operator of a facility meets the specified conditions.

**Comment #21:**

ARPA commented that: “Because Rule 316 does not define the terms ‘when no activity is occurring’ or ‘temporarily or permanently inactive’, the Department's clarification document was intended to make clear that brief pauses of ongoing work activities (e.g., restroom breaks, downtime due to maintenance or repair) do not immediately trigger the requirement to instantaneously comply with the Section 306.5 stabilization standards. Conversely, the clarification document also states that ‘it is clear that the stabilization standards are applicable whenever there is more than a brief halt in activity.’ Accordingly, in no way did the clarification document suggest that the areas would go un-controlled for lengthy periods of time. Indeed, Rule 316 provides extensive control measures for active operations.”

**Response #21:**

Owners/Operators are responsible for complying with all standards at all times. If controls are being implemented, the surfaces do not instantaneously become de-stabilized and should be able to comply with the stabilization standards for brief periods of time. For example, damp materials do not fall through a sieve so the surface would be able to comply with the stabilization standards.

**Comment #22:**

ARPA commented that: “Because each of the referenced sections of the rule (Section 301 and 301.7 through 307.9) already require compliance in and of themselves, the proposed revision is unnecessary and should be withdrawn. Otherwise, any non-compliance with one of the repeated sections of the rule in Section 307 could

inappropriately be considered twice for enforcement purposes. Were this the intent or result, ARPA would see this as highly unethical.”

**Response #22:**

Emissions limitations and control requirements defined for crushing and screening operations covered under Rule 316, Section 301 do not cover all of the possible ancillary activities capable of producing fugitive dust emissions. Crushing and screening activities not explicitly defined in Rule 316, Section 301 are included in Rule 316, Section 307.

**Comment #23:**

ARPA commented that: “Because Section 307.1 already requires that the owner and/or operator of a facility implement the specified fugitive control measures, as applicable, to comply with Section 306.1, Section 306.2, and Section 306.5 of the rule, ARPA supports the proposed removal of the references to these requirements again for each control measure specified in Section 307.1(b).”

**Response #23:**

All references to Rule 316, Sections 306.1 and 306.5 have been removed from Rule 316, Section 307.1(b).

**Comment #24:**

ARPA commented that: “For purposes of consistency with proposed revisions to Section 307.1, ARPA requests that the Department remove ‘in compliance with Section 306.4 and/or Section 306.5 of this rule’ in the second sentence of the first paragraph of Section 307.2 as part of the proposed revisions. Also, because the proposed revisions limit the scope of this requirement to areas ‘other than the areas identified in Section 307.3 and 307.4 of this rule’ and because proposed Section 307.4(d) has been expanded to include essentially all areas of a facility, the option to apply and maintain water under Section 307.2 has been removed. The Department has provided no justification for the proposed revision and therefore the proposed limitation of Section 307.2 applicability to areas other than those identified in Section 307.4(d) should be withdrawn.”

**Response #24:**

All references to Rule 316, Sections 306.4 and 306.5 have been removed from Rule 316, Section 307.1(b). However, the definition of “permanent areas of a facility” lists the same surfaces that were previously listed in Rule 316, Section 307.4(a). Process areas for stockpiles, mining equipment, and conveyors are not similar to areas listed in the definition of “permanent areas of a facility.” Further, the definition of “haul/access road” in Rule 316, Section 227 specifically notes that, “For the purpose of this definition, haul/access roads are not in permanent areas of a facility.” It is the Department’s understanding that storage piles shrink, expand, and/or may be moved such that support equipment servicing the batch plants will not be traveling on permanent areas of the facility similar to the haul/access roads from the quarry or pit. The support equipment paths that do not overlap those routes used by the other vehicles, such as batch trucks, material delivery trucks, employee vehicles, or visitor vehicles for example, can still be maintained with water as described in Rule 316, Section 307.2 consistent with prior versions of the rule. The appropriate designation and identification of surfaces in the approved dust control plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement. See also the responses to comments #10 and #26.

**Comment #25:**

ARPA commented that: “ARPA supports the proposed deletion of ‘in compliance with Section 306.4 of this rule’ with ‘as necessary to comply’ in the first sentence of Section 307.3(a).”

**Response #25:**

The phrase "in compliance with Section 306.4 of this rule" has been deleted from Rule 316, Section 307.3(a).

**Comment #26:**

ARPA commented that: “It is inappropriate for the Department to base the imposition of new requirements in the current rulemaking on federal BACM/MSM requirements. The Department has not conducted the necessary technical and economic feasibility analysis for implementing the proposed paving and cohesive hard surface requirements for all "permanent areas of a facility" in Section 307.4(d). The Department has not demonstrated any emission reductions whatsoever from precluding the use of water as a control measure for areas that only incidentally may receive traffic or those traffic areas that Rule 316 expressly allows the use of water as a control option (i.e., existing Sections 307.2 and 307.3). The proposed revisions to Section 307.4(d) do not meet federal BACM/MSM requirements, are invalid under Arizona law, and therefore should be withdrawn from the proposed rulemaking.”

**Response #26:**

Under Section 188(e) of the CAA pertaining to the EPA's authority to extend the attainment date for a serious nonattainment area beyond the specified statutory date, Maricopa County must demonstrate to the EPA's satisfaction that "the plan for that area includes the most stringent measures that are included in the implementation plan of any State or achieved in any State, and can feasibly be implemented in the area." The proposed requirement for paving or the installation of a cohesive hard surfaces on "permanent areas of a facility" under Rule 316, Section 307.4 are clarifications to the existing rule provisions. These clarifications address concerns raised by ARPA during litigation, address clarifications recommended by the EPA, and are consistent with Rule 1157 in South Coast Air Quality Management District (SCAQMD). Since the proposed rule requirements have been promulgated and are currently being enforced in another jurisdiction, credible evidence exists that these requirements can feasibly be implemented in the Maricopa County serious nonattainment area. Furthermore, the proposed rule change complies with commitments made in the Five Percent Plan for PM-10 and is consistent with new requirements adopted by the Arizona State Legislature in SB1552, particularly dustproof paving for parking, maneuvering, ingress and egress areas. Further, the proposed language only requires that traffic area portions of the permanent areas of the facility be paved or covered with cohesive hard surfaces. The examples listed in the definition of “permanent areas of the facility” receive more than incidental traffic. An owner/operator can limit the amount of surface treatment by designating specific travel routes and parking areas, training site personnel, and/or posting signs. As noted in the responses to comments #10 and #24, watering is still allowed under Rule 316, Sections 307.2 and 307.3. The appropriate designation and identification of surfaces in the approved Dust Control Plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement.

**Comment #27:**

ARPA commented that: “Because ‘all’ of the requirements in Rule 316 do not apply during the construction of pads for processing equipment (e.g., wheel washers), ARPA requests that the Department withdraw the proposed ‘so as to meet all of the requirements in this rule’ language. In the alternative, the Department could replace this proposed language with ‘as necessary to meet applicable requirements in this rule’ to more appropriately link the obligation to implement control measures to meet applicable Rule 316 requirements.”

**Response #27:**

The MCAQD concurs and will insert the word “applicable” to Rule 316, Section 307.7 to read: “Pad Construction For Processing Equipment: The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.”

**Comment #28:**

ARPA commented that: “It is inappropriate for the Department to base the imposition of new requirements in the current rulemaking on federal BACM/MSM requirements. The Department has not conducted the necessary technical and economic feasibility analysis for implementing the proposed revisions to expand applicability (i.e., facilities with 5 acres or more of disturbed surface area subject to a permit) and scope of the fugitive dust control technician requirements (i.e., requiring a technician to be on-site at all times). The Department has no basis to justify the increased burdens and costs that facilities must bear to comply with the expansion of fugitive dust technician requirements. Any perceived “enhancement” of compliance with Rule 316 does not justify the ‘piling on’ of these additional requirements with no demonstrable benefit. Accordingly, the proposed revisions should be withdrawn from the proposed rulemaking.”

**Response #28:**

The proposed revisions to expand applicability to facilities “with 5 acres or more of disturbed surface area subject to a permit” are required under Senate Bill 1552 revisions to A.R.S. §49-474.05.

**Comment #29:**

ARPA commented that: “ARPA requests that the proposed soil moisture content documentation in Section 311.2(a) and (b) be withdrawn. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional reporting requirements.”

**Response #29:**

The EPA determined that the BACM/MSM requirements of the previous version of the rule were deficient compared with more stringent requirements successfully implemented in other similar jurisdictions. In response to this deficiency, Maricopa County incorporated soil moisture testing and recordkeeping requirements to ensure that MSM is applied to applicable facilities in the Maricopa County PM-10 nonattainment area. As stated above, the proposed 4% minimum moisture content represents BACM/MSM as required to address deficiencies delineated by the EPA. The response to comment #12 explains the choice of 4% moisture content and the option for submitting an alternative compliance demonstration plan that justifies a minimum moisture content other than 4%. Further, the requirements in Rule 316, Sections 311.2(a) and (b) are not reporting

requirements. They are requirements for the contents of the Dust Control Plan that reflects the site-specific conditions at each facility given the process and the composition of the material being processed.

**Comment #30:**

ARPA commented that: "Because each of the enumerated sections of the rule under proposed Section 312 already requires compliance in and of themselves, proposed Section 312 is un-necessary and should be withdrawn in its entirety. Otherwise, any non-compliance with one of the sections of the rule repeated in Section 312 could inappropriately be considered twice for enforcement purposes."

**Response #30:**

Based on comments received during the enforcement process, permittees find it difficult to keep track of all applicable requirements. Thus, the MCAQD added a General Requirements section (Rule 316, Section 312) that includes an extensive list of standards, in order to provide a single, easily locatable summary list of the various requirements addressed in more detail throughout Rule 316. The MCAQD will not be citing facilities under Rule 316, Section 312, as the section is designed merely to assist the regulated community. Clark County provides a similar list in the agency's Rule 94.

**Comment #31:**

ARPA commented that: "The proposed revisions are unclear as to how and when the newly amended provisions of the rule would become effective upon the Control Officer's final action on revised O&M and dust control plans. The effectiveness of the rule should not be linked to the Control Officer's action on these revised plans, because it is beyond the control of regulated entities. ARPA requests that the Department clarify that effectiveness of the newly amended provisions relating to O&M and dust control plans is three months after rule adoption to allow preparation of revised plans and that Control Officer disapproval does not affect compliance with the O&M and dust control plan requirements under Rule 316. ARPA is concerned that proposed Section 401.2(d) could be interpreted as requiring the shutdown of an existing facility operation until the Control Officer approves a Dust Control Plan revision/update. ARPA therefore requests that the Department clarify its intent or withdraw proposed Section 401.2(d)."

**Response #31:**

The MCAQD concurs that addressing due dates for submission of O&M Plans and Dust Control Plans in Rule 316, Section 401 would enhance clarity. In addition, the MCAQD also recognizes that affected facilities under the proposed rule will need to construct the infrastructure required to implement the requirements under Rule 316, Section 301.2(c). Accordingly, the following proposed changes will be made to Rule 316, Section 401:

- Change Section 401 to read as follows: "The newly amended provisions of this rule shall become effective upon adoption of this rule except as follows:"
- Add a new Section 401.1 to read as follows: "Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008."
- Renumber Section 401.1 to Section 401.2 and revise the re-numbered Section 401.2(a) to read: "The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008".

- Renumber Section 401.2 to Section 401.3 and revise the re-numbered Section 401.3(a) to read: "The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008."
- Renumber Section 401.3 to 401.4 and Section 401.4 to 401.5.

**Comment #32:**

ARPA commented that: "The proposed recordkeeping requirements for soil moisture content in Section 501.2(c) should be withdrawn in their entirety. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional reporting requirements."

**Response #32:**

On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM-10 nonattainment areas. The EPA noted that other jurisdictions require nonmetallic mineral processing facilities to establish specific minimum soil moisture content standards and testing/recordkeeping requirements. The proposed recordkeeping requirements are the only mechanism to ensure compliance with the proposed 4% minimum moisture content, thus ensuring BACM/MSM emission reductions are achieved in the serious nonattainment area.

**Comment #33:**

ARPA commented that: "The increased inspection and recordkeeping requirements are another example of 'piling on' additional requirements without regard to whether a facility is in compliance with applicable process emission limitations. How a facility ensures compliance with the process emission limitations (e.g., inspection and maintenance practices, standard operating procedures) should be left to facility management and not subject to oversight by the Department and inclusion as independently enforceable requirements in Rule 316. This seemingly endless expansion of requirements unnecessarily subjects facilities to increased costs and enforcement exposure without any demonstrable environmental benefit. ARPA therefore requests that the proposed requirements in Section 501.3(b) be withdrawn."

**Response #33:**

To address a deficiency in the present rule, the proposed rule includes new O&M Plan requirements under Rule 316, Section 305.2. The new O&M Plan requirements are specific to fugitive dust control measures. Requirements for O&M Plan records under Rule 316, Section 501.3 only addressed Emission Control System (ECS) monitoring devices and needed to be updated to ensure proper recordkeeping for fugitive dust control measure O&M Plans. The O&M plan requirements and associated recordkeeping are standard monitoring and recordkeeping requirements for BACM/MSM-level control technology. See responses to (e.g.) comments #6 and #11 concerning the quantification of the environmental benefits anticipated to result from this additional level of controls.

**Comment #34:**

ARPA commented that: "ARPA strongly objects to the proposed replacement of EPA Reference Method 9 with EPA Reference Method 203B for determining visible emissions for the opacity standards described in Sections



301, 302, and 303. Because the data reduction procedures in EPA Reference Method 203B are substantially different than those in EPA Reference Method 9, the proposed revision makes the referenced opacity standards more stringent by changing the method for determining compliance with those standards. Because the Department has provided no justification for increasing the stringency of the referenced opacity standards, ARPA requests that the Department either withdraw the proposed revision or provide the necessary demonstration that the increased stringency in opacity standards is necessary in accordance with A.R.S. §49-112(A).”

**Response #34:**

The revision to the data reduction methodology associated with Maricopa County's general 20% opacity standard to EPA Method 203B is intended to further efforts to increase compliance. This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% level of the standard resulting in more consistent compliance with the existing standard. A rule effectiveness study conducted in early 2007 by the MCAQD found that compliance with the existing rules is lower than anticipated. The commenter also states that the proposed revisions to the data reduction methodology make the 20% opacity standard substantially more stringent than the current rule. The Department disagrees and believes that the comment overstates the stringency of Method 203B. The proposed revisions to the data reduction methodology will require that owners/operators more closely monitor their activities, processes, and controls to ensure proper operation at all times. Areas that successfully met the December 31, 2006 PM-10 attainment date - Clark County, Nevada; South Coast Air Quality Management District, California (SCAQMD); and San Joaquin Unified Air Pollution Control District, California (SJUAPCD) and six out-of 14 western states that are members of the Western Regional Air Partnership (WRAP) - administer rules that include the data reduction methodology proposed in Rule 316. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the proposed standard. Further, if Method 203B were substantially more stringent than Method 9, then the Department would have been required to include the measure in the Most Stringent Measure (MSM) demonstration contained in the MAG Serious Area PM-10 Nonattainment Area Plan and Attainment Date Extension Request. The technical analysis associated with the Salt River Area PM-10 SIP revision submitted in 2005 determined that stationary sources contribute significantly to exceedances of the 24-hour PM-10 standard that occur under stagnant conditions. That analysis characterized the specific types, number, and size of sources present in the modeling domain; land use; the topography of the area; and the design day specific meteorological conditions present at the monitor recording the exceedance. Attainment demonstrations for nonattainment areas required under the Clean Air Act must to the greatest extent practical depict the actual conditions present that cause exceedances in the nonattainment area. Therefore, the nonattainment area plans for the Phoenix Nonattainment Area for PM-10 are required under the Clean Air Act, in effect, to address actual local conditions that are unique to a geographical area. Further, the EPA's latest particulate matter implementation rule, Clean Air Fine Particle Implementation Rule (72 FR 20586, April 25, 2007), identifies “revised opacity standard” in a list of possible stationary sources measures. The rule also lists improved monitoring as a control measure. The EPA notes that improved monitoring control measures would require

facilities to pay more attention to the operations of add-on air pollution control devices, work practices, and other control measure activities. The additional attention will reduce periods during which control devices and other control measures do not operate as intended or required. The result would be increased emissions reductions from implementing existing and new rules. The MCAQD disagrees that there is no coincidence between PM-10 emissions and opacity. Within an individual source, a change in opacity indicates a change in PM emissions. It is not necessary to demonstrate a correlation between mass emissions and opacity across all source categories, when a goal of the standard is to demonstrate compliance with BACT, BACM, and MSM levels of control. Opacity has also long been used as an indicator of visible particulate pollution. In the discussion on improved monitoring control measures in the proposal for the fine particle implementation rule referenced above, the EPA states, "...visible emissions and the opacity of visible emissions are indicators of a change in PM emissions levels..." In the EPA's fact sheet on the rule finalizing Methods 203A, B, and C, the EPA states, "Evaluating the opacity of emissions serves as a surrogate for particulate emissions. Numerous state and federal regulations require that opacity of emissions be measured or monitored."

**Comment #35:**

ARPA commented that: "The proposed testing requirements for soil moisture content in Section 502.3 should be withdrawn in their entirety. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional testing requirements."

**Response #35:**

As stated above, the EPA determined that the BACM/MSM requirements of the revision were deficient based on more stringent requirements successfully implemented in other jurisdictions. In response to this deficiency, Maricopa County incorporated soil moisture testing and recordkeeping requirements modeled after Clark County procedures to ensure that MSM is applied to applicable facilities in the Maricopa County PM-10 nonattainment area. As noted in the response to comment #12, the proposed 4% minimum moisture content standard and testing requirements represent MSM as required to address deficiencies delineated by the EPA.

**Comment #36:**

The Joint Environmental Task Force commented that: "End of Working - Does all work stop at 8:00 p.m.?"

**Response #36:**

Rule 316, Section 220 defines "end of work day" to ensure that trackout is cleaned up at least once per day at applicable facilities, which may operate 24-hours per day.

**Comment #37:**

Open Storage Pile - Sentence construction is improper. Change to: "... which at any one point...and covers..."  
A point does not have a total surface area of 150 square feet.

**Response #37**

The MCAQD agrees that the sentence in Rule 316, Section 236 needs to be reorganized and has revised the sentence by listing the surface area criteria before the height criteria. The word "covers" was removed to clarify that the total pile surface area, not the area of the pile's footprint on the ground, is the relevant criterion being addressed.

**Comment #38:**

The Joint Environmental Task Force commented that: “Process Emission Limitations - Crushing and screening opacity measurements are required here to be done in accordance with Appendix C Method. The method is less stringent than the EPA Method 203B. The County cannot use requirements that are less stringent than those of the EPA. Change this.”

**Response #38:**

The only process emission limitation required to be performed in accordance with Appendix C is Rule 316, Section 301.1(e) that applies to truck dumping. The plume generated by truck dumping does not last 15 seconds. Appendix C, Section 3 specifies that two readings shall be taken for each discrete truck dumping with a five second interval between the two readings. A total of 12 consecutive readings are necessary. Appendix C, Section 3 is not less stringent than Method 203B and is the federally approved method specifically modified for the type of activity specified in Rule 316, Section 301.1(e).

**Comment #39:**

The Joint Environmental Task Force commented that: “Opacity Limitations - Same comment as in item 3 above (see Section 301.1 comment for fugitive dust emission limitations).”

**Response #39:**

See the response to comment #38.

**Comment #40:**

The Joint Environmental Task Force commented that: “Opacity Observations (Section 502) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required.”

**Response #40**

Appendix C, Section 3 is not less stringent than Method 203B and is the federally approved method specifically modified for the truck dumping opacity standard specified in Rule 316, Section 301.1(e). The MCAQD agrees that Rule 316, Section 502 should be clarified. The text, “(excluding Section 301.1(e))” has been added to all references to Rule 316, Section 301 throughout Rule 316, Sections 502 and 502.2.

**Comment #41:**

The Joint Environmental Task Force commented that: “Opacity Observations (Section 502.2) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required.”

**Response #41:**

See the response to comment #40.

**Comment #42:**

The Joint Environmental Task Force commented that: “Opacity Observations (Section 502.3) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required.”

**Response #42:**

See the response to comment #40.

**14. Any other matters prescribed by the statute that are applicable to the specific department or to any specific rule or class of rules:**

Not applicable

**15. Incorporation by reference and their location in the rule:**

Incorporation By Reference	Location
EPA Method 9	Rule 316, Section 309.5
EPA Reference Methods 1 - 5	Rule 316, Section 502.1
EPA Reference Method 203B	Rule 316, Section 502.2
South Coast Air Quality Management	Rule 316, Section 506
Rule 1186 Certification Standards	
Appendix C-Fugitive Dust Test Methods	Rule 316, Section 301.1(e)
	Rule 316, Section 306.1
	Rule 316, Section 306.3(c)(1)
	Rule 316, Section 306.3(c)(2)
	Rule 316, Section 306.3(c)(3)
	Rule 316, Section 306.4
	Rule 316, Section 306.5(b)
	Rule 316, Section 503
	Rule 316, Section 505
ASTM Method D2216-05	Rule 316, Section 504.1
ASTM Method D1557-02e1	Rule 316, Section 504.2

**16. Was this rule previously an emergency rule?**

No

**17. The full text of the rule follows:**

**REGULATION III - CONTROL OF AIR CONTAMINANTS**

**RULE 316**

**NONMETALLIC MINERAL PROCESSING**

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**Adopted 07/06/93**

**Revised 04/21/99**

**Revised 06/08/05**

**MARICOPA COUNTY**  
**AIR POLLUTION CONTROL REGULATIONS**  
**REGULATION III - CONTROL OF AIR CONTAMINANTS**  
**RULE 316**  
**NONMETALLIC MINERAL PROCESSING**

**SECTION 100 - GENERAL**

**101     PURPOSE:** To limit the emission of particulate matter into the ambient air from any nonmetallic mineral processing plant and/or rock product processing plant.

**102     APPLICABILITY:** The provisions of this rule shall apply to any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Source Performance Standards. In such case, the more stringent standard shall apply.

**SECTION 200 - DEFINITIONS:** See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

**201     AFFECTED OPERATION -** An operation that processes nonmetallic minerals or that is related to such processing and process sources including, but not limited to, excavating, crushers, grinding mills, screening equipment, conveying systems, elevators, transfer points, bagging operations, storage bins, enclosed truck and railcar loading stations, and truck dumping.

**202     AGGREGATE TRUCK -** Any truck with an open top used to transport the products of nonmetallic mineral processing plants and/or rock product processing plants.

**203     APPROVED EMISSION CONTROL SYSTEM -** A system for reducing particulate emissions, consisting of collection and/or control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.

**204     AREA ACCESSIBLE TO THE PUBLIC -** Any retail parking lot or public roadway that is open to public travel primarily for the purposes unrelated to the dust generating operation.



- 205 ASPHALTIC CONCRETE PLANT/ASPHALT PLANT** - Any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.
- 206 BAGGING OPERATION** - The mechanical process by which bags are filled with nonmetallic minerals.
- 207 BATCH TRUCK** – Any truck that loads and transports products produced by batch.
- 208 BELT CONVEYOR** - A conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.
- 209 BERMS AND GUARD RAILS** - A pile or mound of material along an elevated roadway capable of moderating or limiting the force of a vehicle in order to impede the vehicle's passage over the bank of the roadway.
- 210 BULK MATERIAL** - Any material including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than two inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that is capable of producing fugitive dust.
- 211 COHESIVE HARD SURFACE** – Any material including, but not limited to, pavement, recycled asphalt mixed with a binder, or a dust suppressant other than water applied and maintained as a roadway surface.
- 212 CONCRETE PLANT** - Any facility used to manufacture concrete by mixing water, aggregate, and cement.
- 213 CONVEYING SYSTEM** - A device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, feeders, belt conveyers, bucket elevators and pressure control systems.
- 214 CRUSHER** - A machine used to crush any nonmetallic minerals including, but not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.
- 215 DISTURBED SURFACE AREA** - A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust.

- 216 DRY MIX CONCRETE PLANT** - Any facility used to manufacture a mixture of aggregate and cements without the addition of water.
- 217 DUST GENERATING OPERATION** - Any activity capable of generating fugitive dust including, but not limited to, land clearing, earthmoving, weed abatement by discing or blading, excavating, construction, demolition, bulk material handling, storage and/or transporting operations, vehicle use and movement, the operation of any outdoor equipment, or unpaved parking lots. For the purpose of this rule, landscape maintenance and playing on or maintaining a field used for nonmotorized sports shall not be considered a dust generating operation. However, landscape maintenance shall not include grading, trenching, or any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.
- 218 DUST SUPPRESSANT** - Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the EPA or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.
- 219 ENCLOSED TRUCK OR RAILCAR LOADING STATION** - That portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.
- 220 END OF WORK DAY** – The end of a working period that may include one or more work shifts ~~but not later than 8 pm.~~ If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.
- 221 FABRIC FILTER BAGHOUSE** - Tube-shaped filter bags - long small-diameter fabric tubes referred to as ‘bags’ arranged in parallel flow paths and designed to separate particles and flue gas.
- 222 FREEBOARD** - The vertical distance between the top edge of a cargo container area and the highest point at which the bulk material contacts the sides, front, and back of a cargo container area.
- 223 FUGITIVE DUST CONTROL MEASURE** - A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.
- 224 FUGITIVE DUST CONTROL TECHNICIAN** - A person with the authority to expeditiously employ sufficient fugitive dust control measures to ensure compliance with Rule 316 of these rules at an active operation.

- 225 FUGITIVE DUST EMISSION** - Particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities.
- 226 GRINDING MILL** - A machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.
- 227 HAUL/ACCESS ROAD** – Any on-site unpaved road that is used by haul trucks to carry materials from the quarry or pit to different locations within the facility. For the purpose of this definition, haul/access roads are not in permanent areas of a facility.
- 228 HAUL TRUCK** - Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.
- 229 INFREQUENT OPERATIONS** – Operations that have State mine identification, approved reclamation plans and bonding as required by State Mining And Reclamation Act of 1975, and only operate on an average of 52 days per year over the past three years from June 8, 2005.
- 230 MATERIAL DELIVERY TRUCK** – Any truck that loads and transports product to customers.
- 231 MIXER TRUCK** – Any truck that mixes cement and other ingredients in a drum to produce concrete.
- 232 MOTOR VEHICLE** - A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.
- 233 NEW FACILITY** - A facility subject to this rule that has not been operated by such facility prior to June 8, 2005.
- 234 NONMETALLIC MINERAL** - Any of the following minerals or any mixture of which the majority is any of the following minerals:
- 234.1** Crushed and broken stone, including limestone, dolomite, granite, rhyolite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell.

- 234.2 Sand and gravel.
  - 234.3 Clay including kaolin, fireclay, bentonite, fuller's earth, ball clay, and common clay.
  - 234.4 Rock salt.
  - 234.5 Gypsum.
  - 234.6 Sodium compounds including sodium carbonate, sodium chloride, and sodium sulfate.
  - 234.7 Pumice.
  - 234.8 Gilsonite.
  - 234.9 Talc and pyrophyllite.
  - 234.10 Boron including borax, kernite, and colemanite.
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  - 234.17 Mica.
  - 234.18 Kyanite including andalusite, sillimanite, topaz, and dumortierite.
  - 234.19 Coal.
- 235 **NONMETALLIC MINERAL PROCESSING PLANT** - Any facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral including, but not limited to, lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, raw material storage and distribution, and sand and gravel plants. Rock Product Processing Plants are included in this definition.
- 236 **OPEN STORAGE PILE** - Any accumulation of bulk material with a 5% or greater silt content ~~which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more~~ that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ~~ASTM Method C136-01~~ ASTM Method C136-06 or other equivalent method approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA), that the silt content is less than 5%. For the purpose of this rule, the definition of open storage pile does not include berms and guard rails that are installed to comply with 30 Code Of Federal Regulations (CFR) 56.93000.
- 237 **OVERBURDEN OPERATION** – An operation that removes and/or strips soil, rock, or other materials that lie above a natural nonmetallic mineral deposit and/or in-between a natural nonmetallic mineral deposit.

- 238 PARTICULATE MATTER EMISSIONS** - Any and all finely divided solid or liquid materials other than uncombined water released to the ambient air as measured by the applicable state and federal test methods.
- 239 PAVE** - To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, rubberized asphalt, or recycled asphalt mixed with a binder).
- 240 PERMANENT AREAS OF A FACILITY** - Areas that remain in-place for 180 days or more in 12 consecutive months. Permanent areas of a facility include the following areas: entrances, exits, parking areas, office areas, warehouse areas, maintenance areas (not including maintenance areas that are in the quarry or pit), concrete plant areas, asphaltic plant areas, and roads leading to and from such areas.
- ~~240~~241 PORTLAND CEMENT PLANT** - Any facility that manufactures Portland Cement using either a wet or dry process.
- ~~241~~242 PRESSURE CONTROL SYSTEM** - System in which loads are moved in the proper sequence, at the correct time, and at the desired speed through use of valves that control the direction of air flow, regulate actuator speed, and respond to changes in air pressure.
- ~~242~~243 PROCESS** - One or more operations including those using equipment and technology in the production of goods or services or the control of by-products or waste.
- ~~243~~244 PROCESS SOURCE** - The last operation of a process or a distinctly separate process which produces an air contaminant and which is not a pollution abatement operation.
- ~~244~~245 PRODUCTION WORK SHIFT** – An eight hour operating period based on the 24-hour operating schedule.
- ~~245~~246 PUBLIC ROADWAYS** - Any roadways that are open to public travel.
- ~~246~~247 RETURNED PRODUCTS** – Left-over concrete or asphalt products that were not used at a job site and were returned to the facility.
- ~~247~~248 RUMBLE GRATE** – A system where the vehicle is vibrated while traveling over grates with the purpose of removing dust and other debris.

- ~~248~~**249** **SCREENING OPERATION** - A device that separates material according to its size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).
- ~~249~~**250** **SILO** - An elevated storage container with or without a top that releases material thru the bottom.
- ~~250~~**251** **SILT** - Any aggregate material with a particle size less than 75 micrometers in diameter, which passes through a No. 200 Sieve.
- ~~251~~**252** **SPILLAGE** - Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/ materials can generate or cause fugitive dust emissions.
- ~~252~~**253** **STACK EMISSIONS** - The particulate matter emissions that are released to the atmosphere from a capture system through a building vent, stack or other point source discharge.
- ~~253~~**254** **STAGING AREA** – A place where aggregate trucks and mixer trucks temporarily queue for their loading or unloading.
- ~~254~~**255** **TEMPORARY FACILITY** - A facility that occupies a designated site for not more than 180 days in a calendar year.
- ~~255~~**256** **TRACKOUT** - Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.
- ~~256~~**257** **TRACKOUT CONTROL DEVICE** - A gravel pad, grizzly, wheel washer, rumble grate, paved area, truck washer, or other equivalent trackout control device located at the point of intersection of an unpaved area and a paved area accessible to the public that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of aggregate trucks, haul trucks, and/or motor vehicles that traverse a facility.
- ~~257~~**258** **TRANSFER POINT** - A point in a conveying operation where nonmetallic mineral is transferred from or to a belt conveyor except for transfer to a stockpile.

~~258~~**259 TRUCK DUMPING** - The unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front end loaders, skip hoists, and railcars.

~~259~~**260 TRUCK WASHER** – A system that is used to wash the entire surface and the tires of a truck.

~~260~~**261 UNPAVED ROAD** – Any roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by Federal, State, county, municipal, or governmental or quasigovernmental agencies. Private unpaved roads are all other unpaved roadways not defined as public. ~~Unpaved internal roads are private unpaved roads within the facility's property boundary.~~

~~261~~**262 VENT** - An opening through which there is mechanically or naturally induced air flow for the purpose of exhausting air carrying particulate matter.

~~262~~**263 WHEEL WASHER** – A system that is capable of washing the entire circumference of each wheel of the vehicle.

~~263~~**264 WIND EVENT** - When the 60-minute average wind speed is greater than 25 miles per hour.

## **SECTION 300 - STANDARDS**

### **301 ~~NONMETALLIC MINERAL PROCESSING PLANTS – PROCESS EMISSION LIMITATIONS AND CONTROLS:~~ CRUSHING AND SCREENING - PROCESS EMISSION LIMITATIONS AND CONTROLS:**

- 301.1 Process Emission Limitations:** The owner and/or operator ~~of a nonmetallic mineral processing plant~~ shall not discharge or cause or allow to be discharged into the ambient air:
- Stack emissions exceeding 7% opacity and containing more than 0.02 grains/dry standard cubic foot (gr/dscf) (50 mg/dscm) of particulate matter. ~~Such stack emissions shall be vented to a properly sized fabric filter baghouse.~~
  - Fugitive dust emissions exceeding 7% opacity from any transfer point on a conveying system.
  - Fugitive dust emissions exceeding 15% opacity from any crusher.
  - Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping. ~~directly into any screening operation, feed hopper, or crusher.~~

- e. Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher. Opacity observations to determine compliance with this section of this rule shall be conducted in accordance with the techniques specified in Appendix C-Fugitive Dust Test Methods of these rules.

**301.2 Controls:** ~~For crushing and screening facilities, the~~ The owner and/or operator of a nonmetallic mineral processing plant shall implement all of the following process controls described in Section 301.2(a), Section 301.2(b), and Section 301.2(c) of this rule or shall implement process controls described in Section 301.2(a) and Section 301.2(d) of this rule:

- a. Enclose sides of all shaker screens.
- b. Permanently mount watering systems (e.g., spray bars or an equivalent control) on: the points listed below for crushers, shaker screens, and material transfer points.
  - (1) Inlet and outlet of all crushers;
  - (2) Outlet of all shaker screens; and
  - (3) Outlet of all material transfer points, excluding wet plants.
- c. Operate watering systems (e.g., spray bars or an equivalent control) on the points listed in Section 301.2(b) of this rule for crushers, shaker screens, and material transfer points, excluding wet plants, to continuously maintain a 4% minimum moisture content.
  - (1) The watering systems shall be maintained in good operating condition, as verified by daily inspections.
  - (2) The owner and/or operator shall investigate and correct any problems before continuing and/or resuming operations.
  - (3) The owner and/or operator shall conduct soil moisture tests as follows:
    - (a) If the owner and/or operator is required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted twice daily in accordance with the test methods described in Section 502 of this rule.
    - (b) If the owner and/or operator is not required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted daily in accordance with the test methods described in Section 502 of this rule.
    - (c) If the owner and/or operator demonstrates that the 4% minimum moisture content is maintained for a minimum of four weeks, then soil moisture tests may be conducted weekly in accordance with the test methods described in Section 502 of this rule.
    - (d) If the owner and/or operator fails to comply with the opacity limitations described in Section 301.1, Section 306.1, or Section 306.2 of this rule and/or if two consecutive soil moisture tests are below 4%, then the owner and/or operator shall conduct soil



moisture tests in accordance with Section 301.2(c)(3)(a) or Section 301.2(c)(3)(b) of this rule, as applicable.

(e) If the owner and/or operator of a facility complies with both of the following requirements, then the number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced:

(i) A soil moisture test is conducted in accordance with the test methods described in Section 502 of this rule at the primary crusher, which indicates that at least a 5% minimum moisture content is maintained; and

(ii) A demonstration that complies with Section 502.3(d) of this rule is submitted to and approved by the Control Officer and is complied with in accordance with Section 502.3(d) of this rule.

(4) The owner and/or operator may request in a permit application, with explanation, an alternative plan that justifies a minimum moisture content other than 4% and that justifies conducting fewer soil moisture tests as are required. In the request, the owner and/or operator shall submit to the Control Officer documentation regarding a minimum moisture content other than 4%, including, but not limited to, economics, emissions rates, water availability, and technical feasibility. In addition, the owner and/or operator shall demonstrate that the proposed alternative compliance demonstration plan will be equivalent in determining compliance with the soil moisture content requirements. Prior approval from the Control Officer and the Administrator shall be received before implementing the plan.

d. Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.

## **302 ASPHALTIC CONCRETE PLANTS - PROCESS EMISSION LIMITATIONS AND CONTROLS:**

**302.1 Process Emission Limitations:** The owner and/or operator of an asphaltic concrete plant shall not discharge or cause or allow to be discharged into the ambient air:

- a. For non-rubberized asphaltic concrete plants, stack emissions exceeding 5% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter ~~over a 6 minute period.~~
- b. For rubberized asphaltic concrete plants (when producing rubberized asphalt only), stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter ~~over a 6 minute period.~~
- c. ~~From all cement, lime, and/or fly ash storage silo(s), fugitive dust emissions exceeding 20% opacity.~~ Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping.

**302.2 Controls:** The owner and/or operator of an asphaltic concrete plant shall implement all of the following process controls: shall, from all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse.

- a. ~~On all cement, lime, and/or fly ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.~~
- b. ~~On existing cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~
- c. ~~On new cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6 minute period.~~
- d. ~~From all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~

**303 CONCRETE PLANTS AND/OR BAGGING OPERATIONS—PROCESS EMISSION LIMITATIONS AND CONTROLS: RAW MATERIAL STORAGE AND DISTRIBUTION, CONCRETE PLANTS, AND/OR BAGGING OPERATIONS - PROCESS EMISSION LIMITATIONS AND CONTROLS:**

**303.1 Process Emission Limitations:** The owner and/or operator of a concrete plant and/or bagging operation shall not discharge or cause or allow to be discharged into the ambient air:

- a. Stack emissions exceeding ~~7%~~ 5% opacity.
- b. Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping. ~~directly into any screening operation, feed hopper, or crusher.~~
- c. ~~Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.~~

**303.2 Controls:** The owner and/or operator of a concrete plant and/or bagging operation shall implement the following process controls:

- a. On all cement, lime, and/or fly-ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly-ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.
- b. ~~On existing cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~

~~e.b.~~ On new cement, lime, and/or fly-ash storage silos, install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf.

~~d.c.~~ On dry mix concrete plant loading stations/truck mixed product, implement one of the following process controls:

- (1) Install a rubber fill tube;
- (2) Install a water spray;
- (3) Install a properly sized fabric filter baghouse or delivery system;
- (4) Enclose mixer loading stations such that no visible emissions occur; or
- (5) Conduct mixer loading stations in an enclosed process building such that no visible emissions from the building occur during the mixing activities.

~~e.d.~~ On cement silo filling processing/loading operations controls, install a pressure control system designed to shut-off cement silo filling processes/loading operations, if pressure from delivery truck is excessive, as defined in O&M Plan.

**304 OTHER ASSOCIATED OPERATIONS:** All other affected operations or process sources not specifically listed in Sections 301, 302, or 303 of this rule associated with the processing of nonmetallic minerals, all other fugitive dust emission limitations not specifically listed in Section 306 of this rule, all other fugitive dust control measures not specifically listed in Section 307 of this rule, and all overburden operations shall, at a minimum, meet the provisions of Rule 310 of these rules.

**305 AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS):** An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule. When selecting air pollution control equipment required by this rule, the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some air pollution control equipment may be more reasonable to implement than others. Regardless, any air pollution control equipment that is installed must achieve the applicable standard(s) required by this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator of a facility may submit a request to the Control Officer and the Administrator for the use of alternative air pollution control equipment. The request shall include the proposed alternative air pollution control equipment, the air pollution control equipment that the alternative would replace, and a detailed statement or report demonstrating that the air pollution control equipment would result in equivalent or better emission control than the equipment prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator to grant the petition, the

facility shall incorporate the alternative air pollution control equipment in any required Operation And Maintenance (O&M) Plan.

**305.1 Operation And Maintenance (O&M) Plan Requirements For ECS:**

- a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.
- b. The owner and/or operator of a facility shall submit to the Control Officer for approval the O&M Plan(s) for each ECS and for each ECS monitoring device that is used pursuant to this rule.
- c. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

**305.2 Operation And Maintenance (O&M) Plan Requirements For Dust Control Measures:**

- a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for equipment associated with any process fugitive emissions and fugitive dust control measures (i.e., gravel pads, wheel washers, truck washers, rumble grates, watering systems, and street sweepers) that are implemented to comply with this rule or an air pollution control permit.
- b. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

~~305.2~~**305.3 Providing And Maintaining ECS Monitoring Devices:** An owner and/or operator of a facility operating an ECS pursuant to this rule shall install, maintain, and calibrate monitoring devices described in the O&M Plan(s). The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

~~305.3~~**305.4 O&M Plan Responsibility:** An owner and/or operator of a facility that is required to have an O&M Plan pursuant to ~~Section 305.1~~ Section 305 of this rule must fully comply with all O&M Plans that the owner and/or operator has submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the Control Officer.

**306 FUGITIVE DUST EMISSION LIMITATIONS:**

**306.1 20% Opacity Limitation:** ~~The~~ For emissions that are not already regulated by an opacity limit, ~~the~~ owner and/or operator of a facility shall not discharge or cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in ~~Section 502~~ Section 503 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules.

**306.2 Visible Emission Limitation Beyond Property Line:** An owner and/or operator of a facility shall not cause or allow fugitive dust emissions from any active operation, open storage pile, or disturbed surface area associated with such facility such that the presence of such fugitive dust emissions remain visible in the atmosphere beyond the property line of such facility.

**306.3 Wind Event:** The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meets the following conditions:

- a. Has implemented the fugitive dust control measures described in Section 307 of this rule, as applicable;
- b. Has compiled and retained records, in accordance with Section 501.4 of this rule, and has documented by records the occurrence of a wind event on the day(s) in question. The occurrence of a wind event must be determined by the nearest ~~Maricopa County Environmental Services Department Air Quality Division~~ Maricopa County Air Quality Department monitoring station, from any other certified meteorological station, or by a wind instrument that is calibrated according to manufacturer's standards and that is located at the site being checked; and
- c. Has implemented the following high wind fugitive dust control measures, as applicable:
  - (1) For an active operation, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules:
    - (a) Cease active operation that may contribute to an exceedance of the fugitive dust emission limitations described in Section 306.1 ~~and Section 306.2~~ of this rule for the duration of the wind event and, if active operation is ceased for the remainder of the work day, stabilize the area; or
    - (b) ~~Maintain a visible crust by applying water~~ Before and during active operations, apply water or other suitable dust suppressant other than water ~~or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule. to keep the soil visibly moist.~~

- (2) For an inactive open storage pile, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules:
  - (a) Maintain a ~~visible~~ soil crust by applying water or other suitable dust suppressant other than water or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in ~~Section 503 and Section 504~~ Section 505 of this rule.
  - (b) Cover open storage pile with tarps, plastic, or other material such that wind will not remove the covering, if open storage pile is less than eight feet high.
- (3) For ~~a~~ an inactive disturbed surface area, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules:
  - (a) Uniformly apply and maintain surface gravel or a dust suppressant other than water; or
  - (b) Maintain a ~~visible~~ soil crust by applying water or other suitable dust suppressant other than water or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in ~~Section 503 and Section 504~~ Section 505 of this rule.

**306.4 Silt Loading And Silt Content Standards For Unpaved ~~Internal~~ Roads And Unpaved Parking And Staging Areas:** From unpaved ~~internal~~ roads and unpaved parking and staging areas, the owner and/or operator of a facility shall not discharge or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in Section 502 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules, and one of the following:

- a. For unpaved roads, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup>; or silt content exceeding 6%.
- b. Silt content exceeding 6%. For unpaved parking and staging areas, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup> or silt content exceeding 8%.

**306.5 Stabilization Standards:**

- a. An owner and/or operator of a facility with an open area or a disturbed surface area on which no activity is occurring (including areas that are temporarily or permanently inactive) shall be considered in violation of this rule if ~~any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility area is~~ not maintained in a manner that meets at least one of the standards listed below, as applicable.
  - (1) Maintain a ~~visible~~ soil crust;

- (2) Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;
  - (3) Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;
  - (4) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;
  - (5) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;
  - (6) Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or
  - (7) Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator. ~~of the Environmental Protection Agency (EPA).~~
- b. If no activity is occurring on an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility and if an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility contain more than one type of ~~disturbance~~ visibly distinguishable stabilization characteristics, soil, vegetation, or other characteristics, which are visibly distinguishable, ~~each representative surface shall be tested~~ the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, in accordance with the appropriate test methods described in ~~Section 503 and Section 504~~ Section 505 of this rule and in Appendix C-Fugitive Dust Test Methods of these rules. ~~and shall be included in or eliminated from the total size assessment of disturbed surface area(s) depending upon test method results.~~

**307 FUGITIVE DUST CONTROL MEASURES:** The owner and/or operator of a nonmetallic mineral processing plant and/or a rock product processing plant shall implement the fugitive dust control measures described in this section of this rule. When selecting a fugitive dust control measure(s), the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some fugitive dust control measures may be more reasonable to implement than others. Regardless, any fugitive dust control measure that is implemented must achieve the applicable standard(s) described in Section 306 of this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator

of a facility may submit a request to the Control Officer and the Administrator ~~Of The Environmental Protection Agency (EPA)~~ for the use of alternative control measure(s). The request shall include the proposed alternative control measure, the control measure that the alternative would replace, and a detailed statement or report demonstrating that the measure would result in equivalent or better emission control than the measures prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator ~~of the EPA~~ to grant the petition, the facility shall incorporate the alternative control measure in any required Dust Control Plan. When engaged in the activities described in Section 301 and Section 307.1 through Section 307.9 of this rule, the owner and/or operator of a facility shall install, maintain, and use fugitive dust control measures as described in Section 307.1 through Section 307.9 of this rule, as applicable.

**307.1 Open Storage Piles And Material Handling:** The owner and/or operator of a facility shall implement all of the following fugitive dust control measures, as applicable. ~~in compliance with Section 306.1 and Section 306.5 of this rule.~~ For the purpose of this rule, open storage pile(s) and material handling does not include berms and guard rails that are installed to comply with 30 CFR 56.93000. However, such berms and guard rails shall be installed and maintained in compliance with Section 306.1, Section 306.2, and Section 306.5 of this rule.

- a. Prior to, and/or while conducting ~~stacking~~, loading, and unloading operations, implement one of the following fugitive dust control measures:
  - (1) Spray material with water, as necessary; or
  - (2) Spray material with a dust suppressant other than water, as necessary.
- b. When not conducting ~~stacking~~, loading, and unloading operations, implement one of the following fugitive dust control measures:
  - (1) Spray material with water, as necessary; ~~in compliance with Section 306.1 and Section 306.5 of this rule;~~
  - (2) Maintain a 1.5% or more soil moisture content of the open storage pile(s); ~~in compliance with Section 306.1 and Section 306.5 of this rule;~~
  - (3) Locate open storage pile(s) in a pit/in the bottom of a pit; ~~If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;~~
  - (4) Arrange open storage pile(s) such that storage pile(s) of larger diameter products are on the perimeter and act as barriers to/for open storage pile(s) that could create fugitive dust emissions; ~~If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;~~
  - (5) ~~Meet one of the stabilization standards in Section 306.5 of this rule; or~~



~~(6)~~(5) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%; or If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;

~~(7)~~(6) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings.

- c. When installing new open storage pile(s) at an existing facility and/or when installing new open storage pile(s) at a new facility, the owner and/or operator shall implement all of the following fugitive dust control measures ~~in compliance with Section 306.1 and Section 306.5 of this rule~~, only if it is determined to be feasible on a case-by-case basis through the Dust Control Plan by assessing the amount of open land available at the property at the time the new open storage pile(s) are formed:
- (1) Install the open storage pile(s) at least 25 feet from the property line; and
  - (2) Limit the height of the open storage pile(s) to less than 45 feet.
- d. For existing open storage pile(s) and when installing open storage pile(s) for an existing facility or for a new facility, if such open storage pile(s) will be constructed over eight feet high and will not be covered, then the owner and/or operator shall install, use, and maintain a water truck or other method that is capable of completely wetting the surfaces of open storage pile(s). ~~in compliance with Section 306.1 and Section 306.5 of this rule.~~

**307.2 Surface Stabilization Where Support Equipment And Vehicles Operate:** The owner and/or operator of a facility shall ~~stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures, in compliance with Section 306.4 and/or Section 306.5 of this rule, as applicable:~~ implement one of the following fugitive dust control measures on areas other than the areas identified in Section 307.3 and Section 307.4 of this rule where loaders, support equipment, and vehicles operate.

- a. ~~Pre water surface soils~~ Apply and maintain water;
- b. Apply and maintain a dust suppressant, other than water; or
- c. Apply a gravel pad, in compliance with ~~the~~ Section 307.6(b)(4) of this rule.

**307.3 Haul/Access Roads That Are Not In Permanent Areas Of A Facility:**

- a. The owner and/or operator of a facility shall implement one of the following fugitive dust control measures, as applicable, ~~in compliance with Section 306.4 of this rule~~, before engaging in the use of, or in the maintenance of, haul/access roads. Compliance with the provisions of this section of this rule shall not relieve any person subject to the requirements

of this section of this rule from complying with any other federally enforceable requirements (i.e., a permit issued under Section 404 of the Clean Water Act).

- (1) Install and maintain bumps, humps, or dips for speed control and apply water, as necessary;
  - (2) Limit vehicle speeds and apply water, as necessary;
  - (3) Pave;
  - (4) Apply and maintain a gravel pad in compliance with Section 307.6(b)(4) of this rule;
  - (5) Apply a dust suppressant, other than water; or
  - (6) Install and maintain a cohesive hard surface.
- b. For a new facility, if ~~implementing one~~ it is determined that none of the fugitive dust control measures described in Section 307.3(a) of this rule ~~is determined to be technically infeasible as obtained/approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) and as approved in the Dust Control Plan,~~ can be technically and feasibly implemented, then the owner and/or operator of a new facility shall maintain a minimum distance of 25 feet from the property line for haul/access roads associated with the new facility. Such determination shall be made and approved in writing by the Control Officer and the Administrator and shall be approved in the Dust Control Plan.

**307.4 On-Site Traffic:**

- a. The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to remain on ~~internal~~ roads with paved surfaces or cohesive hard surfaces. ~~in the permanent areas of the facility /operation that include entrances, exits, warehouses and maintenance areas, office areas, concrete plant areas, asphaltic plant areas, and parking and staging areas, as approved in the Dust Control Plan.~~
- b. The owner and/or operator of a facility shall require all aggregate trucks to remain on ~~internal roads subject to Section 307.4(a) of this rule,~~ paved surfaces or cohesive hard surfaces, except when entering and exiting driving on roads leading to and from aggregate loading areas/loading operations, as approved in the Dust Control Plan.
- c. The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to enter and exit the facility/operation only through entrances that comply with the trackout requirements in ~~Section 307.5~~ Section 307.6 of this rule. ~~and that comply with Section 306.5 of this rule.~~
- d. The owner and/or operator of a facility shall pave or install a cohesive hard surface on permanent areas of a facility on which vehicles drive, as approved in the Dust Control Plan.

**307.5 Off-Site Traffic:** When hauling and/or transporting bulk material off-site, the owner and/or operator of a facility shall implement all of the following control measures:

- a. Load all haul trucks such that the freeboard is not less than three inches;
- b. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and
- c. Cover haul trucks with a tarp or other suitable closure.

#### **307.6 Trackout:**

- a. **Rumble Grate And Wheel Washer:** The owner and/or operator of a new permanent facility and the owner and/or operator of an existing permanent facility with a minimum of 60 aggregate trucks, mixer trucks, and/or batch trucks exiting a facility on any day onto paved public roadways/paved areas accessible to the public shall install, maintain, and use a rumble grate and wheel washer, in accordance with all of the following conditions, as applicable. For the purpose of this rule, a vehicle wash and/or a cosmetic wash may be substituted for a wheel washer, provided such vehicle wash and/or cosmetic wash has at least 40 pounds per square inch (psi) water spray from the nozzle (owner and/or operator of the facility shall have a water pressure gauge available on-site to allow verification of such water pressure), meets the definition of wheel washer (i.e., is capable of washing the entire circumference of each wheel of the vehicle), is operated in such a way that visible deposits are removed from the entire circumference of each wheel of the vehicle exiting the wash, is installed, maintained, and used in accordance with criteria in Section 307.6(a)(1)-(5) of this rule, and is approved in the Dust Control Plan for the facility.
  - (1) The owner and/or operator of a facility shall locate a rumble grate within 10 feet from a wheel washer. ~~The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout.~~
    - (a) The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks.
    - (b) The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout.

(c) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.

- (2) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks exit the facility via the rumble grate first and then the wheel washer.
- (3) The owner and/or operator of a facility shall post a sign by the rumble grate and wheel washer to designate the speed limit as 5 miles per hour.
- (4) The owner and/or operator of a facility shall pave the ~~internal~~ roads from the rumble grate and wheel washer to the facility exits leading to paved public roadways/paved areas accessible to the public.
- (5) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks remain on the paved ~~internal~~ roads between the rumble grate and wheel washer and the facility exits leading to paved public roadways/paved areas accessible to the public.

**b. Rumble Grate, Wheel Washer, Or Truck Washer:** The owner and/or operator of a facility not subject to Section 307.6(a) of this rule shall install, maintain, and use a rumble grate, wheel washer, or truck washer in accordance with all of the following:

- (1) A rumble grate, wheel washer, or truck washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. ~~The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout.~~

(a) The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout.

(b) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be

produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.

- (2) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks exit the facility via a rumble grate, wheel washer, or truck washer.
  - (3) The owner and/or operator of a facility shall post a sign by the rumble grate, wheel washer, or truck washer to designate the speed limit as 5 miles per hour.
  - (4) If haul/access roads/~~internal roads~~ are unpaved between the rumble grate, wheel washer, or truck washer and the facility exits leading to paved public roadways/paved areas accessible to the public, a gravel pad shall be installed, maintained, and used from the rumble grate, wheel washer, or truck washer to such paved public roadways/paved areas accessible to the public in accordance with all of the following:
    - (a) Gravel pad shall be designed with a layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter and 6 inches deep, 30 feet wide, and 50 feet long and shall be flushed with water or completely replaced as necessary to comply with the trackout threshold described in Section 307.6(d) of this rule.
    - (b) Gravel pad shall have a gravel pad stabilizing mechanism/device (i.e., curbs or structural devices along the perimeter of the gravel pad) and shall be flushed with water or completely replaced as necessary to comply with the trackout threshold described in Section 307.6(d) of this rule.
- c. **Exemptions For Wheel Washers:** The owner and/or operator of a facility shall not be required to install, maintain, and use a wheel washer, if any one of the following are applicable:
- (1) A facility has all paved ~~internal~~ roads and meters aggregate or related materials directly to a ready-mix or hot mix asphalt truck, with the exception of returned products. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule.
  - (2) A facility is less than 5 acres in land size and handles recycled asphalt and recycled concrete exclusively. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule on all unpaved ~~internal~~ roads leading to the facility exits leading to paved public roadways/paved areas accessible to the public.
  - (3) A facility has a minimum of ¼ mile paved ~~internal~~ roads leading from a rumble grate to the facility exits leading to paved public roadways/paved areas accessible to the public.
  - (4) A facility meets the definition of infrequent operations, as defined in ~~Section 230~~ Section 229 of this rule. The owner and/or operator of the facility shall install, maintain, and use a

rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule. The gravel pad shall be installed for a distance of no less than 100 feet from the rumble grate to the facility exits leading to paved public roadways/paved areas accessible to the public. The owner and/or operator of the facility shall keep records in accordance with Section 500 of this rule, as applicable. The owner and/or operator of the facility shall notify the Control Officer in the event that the facility will operate more than 52 days per year based on the average rolling 3-year period after June 8, 2005 and the owner and/or operator of the facility shall comply with Section 307.6 of this rule, as applicable.

- d. **Trackout Distance:** An owner and/or operator of a facility shall not allow trackout to extend a cumulative distance of 25 linear feet or more from all facility exits onto paved areas accessible to the public. Notwithstanding the proceeding, the owner and/or operator of a facility shall clean up all other trackout at the end of the workday.
- e. **Cleaning Paved ~~Internal~~ Roads Identified In The Dust Control Plan:** The owner and/or operator of a facility shall clean all paved ~~internal~~ roads identified in the Dust Control Plan for a facility in accordance with all of the following as applicable:
  - (1) The owner and/or operator of a facility with a minimum of 60 aggregate trucks, mixer trucks, and/or batch trucks exiting the facility on any day shall sweep the paved ~~internal~~ roads with a street sweeper by the end of each production work shift, if there is evidence of dirt and/or other bulk material extending a cumulative distance of 12 linear feet or more on any paved ~~internal~~ road.
  - (2) The owner and/or operator of a facility with less than 60 aggregate trucks, mixer trucks, and/or batch trucks exiting the facility on any day shall sweep the paved ~~internal~~ roads with a street sweeper by the end of every other work day. On the days that paved ~~internal~~ roads are not swept, the owner and/or operator of a facility shall apply water ~~as necessary to comply with Section 306 of this rule~~ on at least 100 feet of paved ~~internal~~ roads or the entire length of paved ~~internal~~ roads leading to an exit to paved public roadways/paved areas accessible to the public, if such roadways are less than 100 feet long.
  - (3) The owner and/or operator of a facility, who purchases street sweepers after June 8, 2005, shall purchase street sweepers that meet the criteria of PM<sub>10</sub>-efficient South Coast Air Quality Management Rule 1186 certified street sweepers.
  - (4) The owner and/or operator of a new facility shall use South Coast Air Quality Management Rule 1186 certified street sweepers to sweep paved ~~internal~~ roads.

**307.7 Pad Construction For Processing Equipment:** The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for

processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.

**307.8 Spillage:** In addition to complying with the fugitive dust emission limitations described in Section 306 of this rule and implementing fugitive dust control measures described in Section 307.1 through Section 307.9 of this rule, as applicable, the owner and/or operator of a facility shall implement ~~one of~~ the following fugitive dust control measures, as applicable, when spillage occurs:

- a. Promptly remove any pile of spillage on paved haul/access roads/~~paved internal roads~~; or
- b. Maintain in a stabilized condition any pile of spillage on paved haul/access roads/~~paved internal roads~~ and remove such pile by the end of each day; ~~or~~ and
- c. Maintain in a stabilized condition all other piles of spillage with dust suppressants until removal.

**307.9 Night-Time Operations:** The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures at night, as approved in the Dust Control Plan.

**308 FACILITY INFORMATION SIGN:** The owner and/or operator of a facility subject to this rule shall erect and maintain a facility information sign at the main entrance such that members of the public can easily view and read the sign at all times. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information:

**308.1** Facility name and permittee's name;

**308.2** Current number of the air quality permit or of authority to operate under a general permit;

**308.3** Name and local phone number of person(s) responsible for dust control matters; and

**308.4** Text stating: "Dust complaints? Call Maricopa County Air Quality Department - (Insert the accurate Maricopa County Air Quality Department complaint line telephone number)."

**308309 FUGITIVE DUST CONTROL TECHNICIAN:** The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour or with five acres or more of disturbed surface area subject to a permit, whichever is greater, shall have in place a Fugitive Dust Control Technician ~~or his~~ designee, who shall meet all of the following qualifications:

~~308.1~~**309.1** Be authorized by the owner and/or operator of the facility to have full authority to ensure that fugitive dust control measures are implemented on-site and to conduct routine inspections, recordkeeping, and reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule.

**309.2** Be trained in accordance with the Comprehensive Dust Control Training Class conducted or approved by the Control Officer, successfully complete, at least once every three years, such Comprehensive Dust Control Training Class, and have a valid dust training certification identification card readily accessible on-site while acting as a Fugitive Dust Control Technician.

~~308.2~~**309.3** Be authorized by the owner and/or operator of the facility to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

~~308.3~~**309.4** ~~Be available within 30 minutes.~~ Be on-site at all times during primary dust generating operations related to the purposes for which the permit was obtained.

~~308.4~~ ~~Be issued a valid Certificate Of Completion of the Maricopa County Fugitive Dust Control Class.~~

~~308.5~~**309.5** Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A.

**309.6** Be authorized by the owner and/or operator of the facility to ensure that the site superintendent or other designated on-site representative of the owner and/or operator of the facility and water truck and water pull drivers for each site be trained in accordance with the Basic Dust Control Training Class conducted or approved by the Control Officer with jurisdiction over the site and successfully complete, at least once every three years, such Basic Dust Control Training Class.

## **310 BASIC DUST CONTROL TRAINING CLASS:**

**310.1** At least once every three years, the site superintendent or other designated on-site representative of the permit holder, if present at a site that has more than one acre of disturbed surface area that is subject to a permit issued by the Control Officer requiring control of PM<sub>10</sub> emissions from dust generating operation, shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.

**310.2** At least once every three years, water truck and water-pull drivers shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.



**310.3** All persons having successfully completed training during the 2006 and 2007 calendar years shall be deemed to have satisfied the requirement to successfully complete the Basic Dust Control Training Class, if the training that was completed was conducted or approved by the Control Officer. Completion of the Comprehensive Dust Control Training Class, as required in Section 309.2 of this rule, shall satisfy the requirement of this section of this rule.

**309311 DUST CONTROL PLAN:** ~~The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 and Section 307 of this rule. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.~~

**311.1** The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 305.2, Section 306, Section 307, and Section 309 of this rule.

**311.2** The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all equipment associated with any process fugitive emissions to be implemented, in order to comply with Section 301 and Section 305.2 of this rule and that includes all of the information in Section 311.2(a) and Section 311.2(b) of this rule, as applicable. If an alternative plan for conducting required soil moisture tests is approved by the Control Officer, included in a Dust Control Plan, and implemented by the owner and/or operator, as allowed under Section 301.2(c)(6) of this rule, and if the Control Officer determines that such alternative plan included in a Dust Control Plan has been followed, yet fugitive dust emissions still exceed the standards of this rule, then the Control Officer shall issue a written notice to the owner and/or operator explaining such determination. The owner and/or operator shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer's written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule.

**a.** Documentation for the soil moisture content in order to comply with Section 301.2 of this rule.

**b.** Documentation of soil moisture analysis for each move notice regarding portable sources.

**311.3** The Dust Control Plan shall, in addition, contain all the information described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.

**311.4** All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.

**311.5** The Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan shall be deemed a violation of this rule.

**311.6** With each move notice regarding portable sources, the owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that meets the requirements of this section of this rule.

**312** **GENERAL REQUIREMENTS:** An owner and/or operator of a facility subject to this rule shall be subject to the standards and/or requirements of this rule at all times. Failure to comply with any one of the following requirements shall constitute a violation.

**312.1** Process emission limitations and controls described in Section 301, Section 302, and Section 303 of this rule.

**312.2** Operation and maintenance (O&M) plan requirements for an emission control system and for dust control measures described in Section 305 of this rule.

**312.3** Fugitive dust emission limitations described in Section 306 of this rule.

**312.4** Fugitive dust control measures described in Section 307 of this rule.

**312.5** Facility information sign requirement described in Section 308 of this rule.

**312.6** Fugitive Dust Control Technician requirements described in Section 309 of this rule.

**312.7** Basic Dust Control Training Class requirements described in Section 310.

**312.8** Dust Control Plan requirements described in Section 311 of this rule.

**312.9** Monitoring and recordkeeping requirements described in Section 500 of this rule.

**312.10** Any other requirements of this rule.

## **SECTION 400 - ADMINISTRATIVE REQUIREMENTS**

**401 COMPLIANCE SCHEDULE:** The newly amended provisions of this rule shall become effective upon adoption of this rule ~~and the following schedule applies~~ except as follows:

**401.1** **Process Controls:** Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.

~~401.1~~ **401.2** ~~Dust Control Plan: When complying with Section 309 of this rule, if a Dust Control Plan is required to be revised, then a revised Dust Control Plan shall be submitted to the Control Officer by September 30, 2005 or three months after rule adoption, whichever comes first.~~ **O&M Plan:**

**a.** The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008.

**b.** The Control Officer shall take final action on an O&M Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete O&M Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.

~~401.2~~ **401.3** ~~Pressure Control System: When complying with Section 303.2(e) of this rule, a pressure control system shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.~~ **Dust Control Plan:**

**a.** The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.

**b.** The owner and/or operator of a new facility shall submit to the Control Officer a Dust Control Plan at the time such owner and/or operator submits a permit application to the Control Officer.

**c.** The Control Officer shall take final action on a Dust Control Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete Dust Control Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.

**d.** The Dust Control Plan or the Dust Control Plan revision/update must be approved by the Control Officer before operations begin.

- 401.3 **401.4** ~~Operational Overflow Warning System/Device: When complying with Section 302.2(a) and/or Section 303.2(a) of this rule, an operational overflow warning system/device shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.~~ **Basic Dust Control Training Class:** No later than December 31, 2008, a site superintendent or other designated on-site representative of the permit holder, water truck drivers, and water pull drivers shall have successfully completed the Basic Dust Control Training Class, as described in Section 310 of this rule.
- 401.4 **401.5** ~~Fugitive Dust Control Technician: When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after rule adoption, whichever comes first.~~ **Comprehensive Dust Control Training Class:** No later than June 30, 2008, a Fugitive Dust Control Technician shall have successfully completed the Comprehensive Dust Control Training Class, as described in Section 309 of this rule.
- 401.5 ~~Surface Stabilization Where Support Equipment And Vehicles Operate: When complying with Section 307.2 of this rule, surface stabilization and/or paving shall be completed by December 31, 2005 or six months after rule adoption, whichever comes first.~~
- 401.6 ~~Trackout: When complying with Section 307.6 of this rule, a rumble grate, wheel washer, or truck washer shall be installed and a schedule for using PM<sub>10</sub>-efficient South Coast Air Quality Management Rule 1186 certified street sweepers shall be in place by January 1, 2006.~~
- 401.7 ~~Process Emission Limitations And Controls: When complying with Section 301, Section 302, and/or Section 303 of this rule, process emission limitations shall be complied with and controls shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.~~

## SECTION 500 - MONITORING AND RECORDS

- 501** **MONITORING, RECORDKEEPING AND REPORTING:** Any owner and/or operator of a facility subject to this rule shall comply with the following requirements. Records shall be retained for five years and shall be made available to the Control Officer upon request.
- 501.1** Operational information required by this rule shall be kept in a complete and consistent manner on-site and be made available without delay to the Control Officer upon request.
- 501.2** Records of the following process and operational information, as applicable, are required:

- a. General Data:** Daily records shall be kept for all days that a facility is actively operating. Records shall include all of the following:
- (1) Hours of operation;
  - (2) Type of batch operation (wet, dry, central);
  - (3) Throughput per day of basic raw materials including sand, aggregate, cement (tons/day);
  - (4) Volume of concrete produced per day (cubic yards/day) and volume of asphaltic concrete produced per day (tons/day);
  - (5) Volume of aggregate mined per day (~~cubic yards/day~~) (tons per day); and
  - (6) Amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).
  - (7) For facilities that assert to be below the thresholds in Section 307.6(a) and Section 307.6(e)(1) of this rule, number of aggregate trucks, mixer trucks, and/or batch trucks exiting the facility.
- b. Additional Data For Dry Mix Concrete Plants And/Or Bagging Operations:** Records shall include all of the following:
- (1) Number of bags of dry mix produced;
  - (2) Weight (size) of bags of dry mix produced;
  - (3) Kind and amount of fuel consumed in dryer (cubic feet/day or gallons/day); and
  - (4) Kind and amount of any back-up fuel, if any.
- c. Control And Monitoring Device Data:** Records shall include all of the following:
- (1) For a fabric filter baghouse:
    - (a) Date of inspection;
    - (b) Date and designation of bag replacement;
    - (c) Date of service or maintenance related activities; and
    - (d) Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.
  - (2) For a scrubber:
    - (a) Date of service or maintenance related activities;
    - (b) Liquid flow rate;
    - (c) Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and
    - (d) Time, date, and cause of scrubber failure and/or down time, if applicable.
  - (3) For watering systems (e.g., spray bars or an equivalent control):
    - (a) Date, time, and location of each moisture sampling point; and
    - (b) Results of moisture testing.

**501.3** ECS O&M Plan Records: An owner and/or operator of a facility shall maintain all of the following records in accordance with an approved O&M Plan:

**a. For Any ECS, Any Other Emission Processing Equipment, And Any ECS Monitoring Devices That Are Used Pursuant To This Rule Or To An Air Pollution Control Permit:**

- ~~a.~~(1) Periods of time that an approved ECS is operating to comply with this rule;
- ~~b.~~(2) Periods of time that an approved ECS is not operating;
- ~~c.~~(3) Flow rates;
- ~~d.~~(4) Pressure drops;
- ~~e.~~(5) Other conditions necessary to determine if the approved ECS is functioning properly;
- ~~f.~~(6) Results of visual inspections; and
- ~~g.~~(7) Correction action taken, if necessary.

**b. For Equipment Associated With Any Process Fugitive Emissions And Any Fugitive Dust Control Measures That Are Implemented To Comply With This Rule Or To An Air Pollution Control Permit:**

- (1) A written record of self-inspection on each day that a facility is actively operating. Self-inspection records shall include daily inspections or in compliance with O&M Plan requirements, whichever is more frequent;
- (2) Maintenance of street sweepers; and
- (3) Maintenance of trackout control devices, gravel pads, wheel washers, and truck washers.

**501.4** Dust Control Plan Records: ~~An owner and/or operator of a facility shall compile, maintain, and retain records as described in Rule 310-Fugitive Dust of these rules. An owner and/or operator of a facility shall compile, maintain, and retain a written record of self-inspection of all fugitive dust control measures implemented, in order to comply with the Dust Control Plan, on each day that the facility is actively operating. Self-inspection records shall include information as described in Rule 310-Fugitive Dust From Dust Generating Operations of these rules.~~

**501.5** Basic Dust Control Training Class Records: An owner and/or operator of a facility shall compile, maintain, and retain a written record for each employee subject to Section 310 of this rule. Such written records shall include the name of the employee, the date of the Basic Dust Control Training Class that such employee successfully completed, and the name of the agency/representative who conducted such class.

**502** COMPLIANCE DETERMINATION - 40 PART 60, APPENDIX A TEST METHODS ADOPTED BY REFERENCE FOR PROCESS EMISSIONS AND CONTROLS: Compliance determinations for activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be made

according to ~~The~~ the test methods for those subparts of 40 CFR Part 60, Appendix A, adopted as of ~~July 1, 2004~~ July 1, 2007, as listed below. ~~Such subparts of 40 CFR Part 60, Appendix A, adopted as of July 1, 2007 and 40 CFR Part 51, Appendix M, adopted as of July 1, 2007,~~ are adopted by reference as indicated. This adoption by reference includes no future editions or amendments. Copies of test methods referenced in Section 502 of this rule are available at ~~the Maricopa County-Environmental Services~~ Air Quality Department, 1001 North Central Avenue, Phoenix, Arizona, 85004-1942. When more than one test method is permitted for a compliance determination, then an exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule.

**502.1 Grain Loading:** Particulate matter and associated moisture content shall be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.

**502.2 Opacity Determination Observations:** ~~Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the test methods described in Appendix C (Fugitive Dust Test Methods) of these rules.~~ Opacity observations to measure visible emissions from activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be conducted in accordance with the techniques specified in EPA Reference Method 203B (Visual Determination Of Opacity Of Emissions From Stationary Sources For Time-Exception Regulations), 40 CFR Part 51, Appendix M, adopted as of July 1, 2007. Emissions shall not exceed the applicable opacity standards described in Section 301(excluding Section 301.1(e)), Section 302, and Section 303 of this rule for a period aggregating more than three minutes in any 60-minute period.

**502.3 Soil Moisture Testing For Watering Systems:**

- a.** If twice daily moisture sampling is required, such sampling shall be conducted within one hour of startup and again at 3 pm or within one hour prior to daily shutdown but no less frequently than once every 8-hour period.
- b.** If daily moisture sampling is required, such sampling shall be conducted within one hour after startup.
- c.** Moisture testing shall be conducted on all crushers, shaker screens, and material transfer points (excluding wet plants). Unless prior approval from the Control Officer is granted, moisture testing shall be conducted at the following sample points:
  - (1)** Within 10 feet from the point where crushed aggregate material is placed on the discharge belt conveyor from the crusher;
  - (2)** Within 10 feet from the point where screened aggregate material is placed on the conveyor; and
  - (3)** From each stacker point.

- d. The number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced, if the owner and/or operator of a facility complies with all of the following requirements:
  - (1) A 5% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule, is maintained at the primary crusher;
  - (2) A minimum of 20 soil moisture samples are taken at all of the points identified in Section 502.3(c) of this rule;
  - (3) A 4% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule and as demonstrated by the soil moisture samples required by Section 502.3(d)(2) of this rule, is maintained at all of the points identified in Section 502.3(c) of this rule; and
  - (4) A written request is submitted to and approved by the Control Officer to revise/modify the Dust Control Plan to reflect the change in moisture content and the reduced number of sampling points according to the demonstration made by the owner and/or operator of a facility according to this section of this rule.
- e. Moisture testing is not required on a crusher and/or screen plant equipped with a baghouse or fabric filter, electrostatic precipitator, or wet scrubber, excluding wet spray bars, for control of particulate matter.
- f. Moisture testing shall include all aggregate material less than 0.25 inch in diameter.
- g. Moisture testing shall be conducted in accordance with the requirements of American Society For Testing And Materials C566-97 (2004) "Standard Test Method For Total Evaporable Moisture Content Of Aggregate By Drying" with the exception that smaller sample portions may be used.

**503 COMPLIANCE DETERMINATION FOR EMISSIONS AND CONTROLS THAT ARE REGULATED BY SECTION 301.1(E), SECTION 304 AND/OR SECTION 306 OF THIS RULE:** To determine compliance with the fugitive dust emission limitations described in Section 301.1(e), Section 304, and/or Section 306 of this rule, opacity observations shall be conducted in accordance with the techniques specified in Appendix C-Fugitive Dust Test Methods of these rules.

**503504 COMPLIANCE DETERMINATION FOR SOIL MOISTURE CONTENT AND SOIL COMPACTION CHARACTERISTICS TEST METHODS ADOPTED BY REFERENCE:**

~~503.1~~**504.1** ASTM Method ~~D2216-98~~ D2216-05 ("Standard Test Method For Laboratory Determination Of Water (Moisture) Content Of Soil And Rock By Mass"), ~~1998~~ 2005 edition.



~~503.2~~**504.2** ASTM Method ~~D1557-91 (1998)~~ D1557-02e1 ("Test Method For Laboratory Compaction Characteristics Of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kNm/m<sup>3</sup>")), ~~1998~~ 2002 edition.

**~~504.505~~ COMPLIANCE DETERMINATION FOR STABILIZATION STANDARDS TEST METHODS**

**ADOPTED BY REFERENCE:** The stabilization standards described in Section 306.5 of this rule shall be determined by using the following test methods in accordance with Appendix C-Fugitive Dust Test Methods of these rules:

~~504.1~~**505.1** Appendix C, Section 2.1.1 (Silt Content Test Method) of these rules to estimate the silt content of the trafficked parts of unpaved roads (not to exceed 6%) and unpaved parking lots (not to exceed 8%).

~~504.2~~**505.2** Appendix C, Section 2.3 (Test Methods For Stabilization-~~Visible Soil~~ Crust Determination) (The Drop Ball/~~Steel Ball~~ Test) of these rules for a ~~visible soil~~ crust.

~~504.3~~**505.3** Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules for threshold friction velocity (TFV) corrected for non-erodible elements of 100 cm/second or higher.

~~504.4~~**505.4** Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules for flat vegetation cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%.

~~504.5~~**505.5** Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%.

~~504.6~~**505.6** Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements.

~~504.7~~**505.7** Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules for a percent cover that is equal to or greater than 10%, for non-erodible elements.

~~504.8~~**505.8** An alternative test method approved in writing by the Control Officer and the Administrator.  
of the EPA.

~~505~~**506** **CERTIFIED STREET SWEEPING EQUIPMENT LIST ADOPTED BY REFERENCE:** The list of street sweeping equipment (as of July 9, 2004) that has met the South Coast Air Quality Management Rule 1186 certification standards is found in support documents for the South Coast Air Quality Management District Regulation XI-Source Specific Standards, Rule 1186-PM<sub>10</sub> Emissions From Paved And Unpaved Roads And Livestock Operations and is adopted by reference. A copy of the list of certified street sweeping equipment can also be obtained at Maricopa County Air Quality Department, 1001 North Central Avenue, Phoenix, Arizona, 85004.